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Echo Chamber
for string quartet, narration and electronic sounds

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Echo Chamber
for string quartet, narration and electronics

by

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Echo Chamber
for string quartet, narration and electronics

Jonathan Michael Fielder, D.M.A.

The University of Texas at Austin, 2017

Supervisor: Russell Pinkston

Echo Chamber is a work for string quartet, pre-recorded narration and electronic sounds, with a text by Eric Grant. The work is itself a reaction to hatred and violence aimed at marginalized groups of people, and is more specifically a reaction to the noticeable rise in outspoken racism, sexism, homophobia and fervent nationalism that occurred throughout the 2016 election cycle. Composing this piece presents a difficult challenge in that I am not, in any way, part of a marginalized minority. As a white American male, my privilege extends deeper than I will ever truly know. However, I have seen firsthand how the hateful speech and actions of others has impacted those closest to me, and present *Echo Chamber* as an acknowledgement of their struggle and an offering of solidarity. Compositionally, the piece presents challenges of blending elements of live performers, electronic sounds in fixed time, and a narration which, above all, must always be the central focus for the message to be heard. This document details the various methods for addressing those challenges and discusses other topics related to the structure of the composition. The first section addresses the extra-musical characteristics,

historical context and ethical issues that surround the piece. The second chapter presents a detailed theoretical analysis of the acoustic elements, the structure and method behind the electronic elements and how the two intersect to create a cohesive whole.

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Chapter 1: Background and Approach

1.1 Introduction

Echo Chamber is a composition for string quartet and electronics with pre-recorded narration of a text by Eric Grant. It is a socially and politically inspired work that focuses on the rise of hatred and intolerance that became increasingly widespread during the campaign season of the 2016 United States General Election.[1] This paper provides a detailed account of the compositional processes involved in creating the piece, as well as some musical and ethical concerns related to the project. The first three chapters are an overview of the early planning stages, conception of the piece, the text, and ethical issues. Chapters four and five explore the methods used in writing the composition, theoretical underpinnings of the piece, a detailed description of the construction and role of the electronics, and my final conclusions upon reflecting on the process of composing *Echo Chamber*.

As stated above, *Echo Chamber* is a socially driven work that focuses on exploring hatred in various forms. Looking back to the summer of 2016, it became clear as the months grew closer to the election that the United States was becoming a socially and politically divided country. Feelings of fervent nationalism were spreading through the ranks of constituents and outspoken racism and hate speech targeted at historically marginalized groups of people became far more commonplace. As a straight, cisgendered white male, it is very likely that I will never experience any of the hardship that people of color, women, the LGBTQ community, immigrants, Muslims, and all marginalized people feel on a daily basis as a result of *not* being a straight white male.

1 "Anti-Semitic Targeting of Journalists During the 2016 Presidential Campaign," study performed by the Anti-Defamation League, October 19, 2016. Accessed March 2, 2017. http://www.usatoday.com/story/tech/news/2016/10/21/massive-rise-in-hate-speech-twitter-during-presidential-election-donald-trump/92486210/. Additional data taken from "Anti-Muslim Sentiment Dominated Extremist Twitter Accounts After the Election," by Southern Poverty Law Center, December 15, 2016, Accessed December 28, 2016. This is partially based on anecdotal experience, in addition to the articles cited above.

However, hearing the rampant hate speech and seeing the abhorrent behavior of the newly emboldened drove me to put my energy into a collaborative project that could explore the thoughts, feelings and emotions of people who directly felt (and still feel) the effects of those actions. This was the initial idea for what became *Echo Chamber*. The idea to use a narrated text came primarily from what I felt was a need to clearly present the concept and message of the piece. I did not want this to be an abstract work about a very real subject, nor did I want it to be for singing voice and string quartet. The final decision was to utilize a newly written text to be narrated by multiple people.

The idea to utilize string quartet came before the concept for *Echo Chamber*. When starting the early planning stages for my dissertation (spring 2016) I had not written a string quartet, with the exception of some short composition and theory assignments. The ensemble has a long and rich history in the Western canon with numerous masterworks in the repertoire. It seemed an appropriate choice of ensemble for my dissertation, both for its historical significance and because it fills a gap in my portfolio. The use of electronics comes from my interest in composing for electronics alone and integrating technology with live performers. While I did not have a concept for the piece in the early planning stages, I did know that part of the electronics would involve playback of recordings of a narrated text. Numerous pieces that have inspired my own work involve the use of voice in various ways – as a narrator, as a sound-making instrument (without text), as pre-recorded sound objects for electronic text-sound composition – and I wanted that particular compositional interest to be represented in my dissertation. Previous works of mine have utilized text and the voice in various ways[2] and I felt this would be an opportunity to demonstrate those techniques on a (theoretically) more refined level. *Echo Chamber* therefore stands as the culmination of my work as

2 *Visions of the Apocalypse* (2010) for baritone and chamber ensemble called for the baritone to narrate text as well as sing; *C12H16N2* (2012) for fixed electronics utilized only recordings of spoken text and drone singing by Liz Pearse; *Wind Chimes Clatter through the Mist and Fog* (2014) for fixed electronics consists of abstract sounds created from recordings of mouth noises; *Obscuridad* (2015) for fixed electronics utilized only recordings of my voice with narration recorded by Quetta Carpenter.

a student composer and represents a synthesis of acoustic and electronic elements, spoken narration, and techniques of text-sound composition. Moreover, it is also my longest and most substantial work to date, in terms of duration, substance and scope, making it an appropriate capstone for my studies in composition. The following chapters will provide a more detailed explanation of the processes employed, problems that arose, ethical concerns, and what I ultimately took away from the process.

1.2 Influences and Pieces Studied

The initial concept of *Echo Chamber* really began in May of 2010, when I first heard Lee Hyla's *Howl* for string quartet and narrator, as recorded by the Kronos Quartet and Allen Ginsberg.[3] It was my first experience hearing the poem *Howl* read aloud by Ginsberg, as well as my first experience with the music of Lee Hyla. What was most captivating was the way Hyla managed to integrate the emotional power of the text - specifically as read by Ginsberg - with an equally stunning musical backdrop with the string quartet. I was mesmerized by Hyla's piece, and it has remained a huge inspiration on my work for the last 7 years.

In the fall of 2013 I decided that I wanted to write a piece for string quartet and narration, partially as an homage to Hyla, but also because of my own interest in working with the voice as an instrument. I have always been drawn to pieces that utilize the voice for narration or utilize the voice in less common or standard approaches. Frederic Rzewski's *Coming Together*, Schoenberg's *A Survivor from Warsaw*, Peter Maxwell Davies' *Eight Songs for a Mad King,* Aaron Kernis; *Beautiful Sky, Brilliant Sky*, and the early vocal works of George Crumb also stand out as important influences in my early studies. These pieces primarily impacted how I viewed and would come to use the voice in my acoustic compositions. My research in electronic music has also led to an

3 Lee Hyla, Howl, Allen Ginsberg with the Kronos Quartet, Nonesuch B000005J3N, 1996, CD.

increased interest in the practice of text-sound composition, defined by William Brunson as an "umbrella characterization for a complex confluence of diverse interests, the most common being language, music and the use of technology." in his 2009 lecture "Text-Sound Composition."[4] Brunson's definition is specifically in reference to compositional practices among Swedish composers. Other influences related to text-sound pieces include influences outside of Sweden include Elainie Lillios' *Arturo* (1998) and *Listening Beyond* (2007), Luciano Berio's *Thema Omaggio a Joyce* (1958), Rölf Enstrom's *Final Curse* (1989), Mark Wingate's *Ode to the South Facing Form* (1992), Kristi McGarity's *Mystery* (1999) and Scott Wyatt's *...and nature is alone* (2007, rev. 2015). What interests me about these acousmatic text-sound compositions is the wide variety of sounds that the composers are able to get from processing the human voice, whether lightly or heavily. Scott Wyatt's *…and nature is alone* is also an example of a modern take on radio drama in which a recorded text – a narrator talking about the nuclear explosion at Chernobyl in 1986 – is presented with music and sound design effects to enhance the story.[5] The works mentioned above have all been influential on my music and the development of my aesthetic tastes in music, and they all played a part in my final decision to include electronics and narration in my dissertation.

Because I had not already written for string quartet I dedicated a large portion of time to studying string quartet scores of the 20th and 21st century to better understand how other composers who share my aesthetic approach the ensemble. Hyla's *Howl*, as mentioned above, was a very strong influence on my work with *Echo Chamber*, but there were additional works that had an impact on my thinking about the string quartet. These pieces include, but are not limited to, Brian Ferneyhough's collection of six string quartets, Bartok's *String Quartet No. 4*, George Crumb's

4 William Brunson, "Text-Sound Composition – The Second Generation." (paper presented at the Electroacoustic Music Studies Conference, Buenos Aires, June 22-25, 2009). 1

5 "Interview with Scott Wyatt," interview by Jeff Stolet, SEAMUS Online, April 22, 2016, , accessed February 23, 2016, https://www.seamusonline.org/interview-with-scott-wyatt/.

Black Angels, Chaya Czernowin's *String Quartet*, Claus-Steffen Mahnkopf's *Homage a Theodor Adorno*, Jason Eckhardt' *Subject*, and Elliott Carter's *String Quartet No. 2*. Knowing that my dissertation would include electronics, I also explored works for string quartet and electronics, both live and fixed. Some of the key study scores in this medium include Kaija Saariaho's *Nymphea* and Stephen Montague's *String Quartet No. 2*, Kevin Ernste's *Palimpsest*, and Chris Fisher-Lochhead's *Hack*. Locchead's work was of particular interest, as it is essentially a work for acoustic string quartet replicating the speech patterns of famous comedians, with the audio of the comedians performing stand-up playing behind the string quartet. Montague's *String Quartet No. 2* was performed at the University of Texas at Austin for the fall 2016 Electro-Acoustic Recital Series. In preparation for this concert I worked tangentially with Russell Pinkston in the rehearsals and turned pages for the performance, which provided hands-on experience in working with the exact medium I planned to use for my dissertation work, and helped guide some of my decisions in terms of scope and degree of live processing in my own composition.

1.3 Aesthetic, Communicative and Artistic Goals

Ultimately, Lee Hyla's *Howl* (1993) has been the primary influence behind *Echo Chamber*. Hyla's use of aggressive energetic outbursts tempered by moments of brief repose create what I find to be a very compellingly dramatic approach to instrumental composition. This extends to other works by Hyla, such as *Pre-Pulse Suspended* (1984) and *We Speak Etruscan* (1992), all of which display a similar character of rhythmic and gestural language. Additionally, I find the juxtaposition of music and text in *Howl* done in a way that the string quartet and the narrator are equally important, what Hyla refers to as the string quartet being an "equal partner to the poem."[6] The recited text is enhanced by the string players and the energy of the music is enhanced by

6 Lee Hyla. "Howl, U.S.A." Liner Notes for *Howl* by Kronos Quartet. Nonesuch B000005J3N, 1996, compact disc booklet

Ginsberg's cadence and impassioned reading of his poem. This is what I was striving for with *Echo Chamber.*

Many of my favorite composers might be described as writing noisy or aggressive music - Brian Ferneyhough, Franklin Cox, Jason Eckhardt, Per Bloland - and I have often put these elements into my own music through dissonant pitch structures, disjointed and/or gestural rhythms, and grating or clangorous timbres. Growing up, I primarily listened to rock and heavy metal bands, and when I began composing concert music in 2006, the sounds of Metallica, Megadeth and Meshuggah were far more familiar to my ears than Beethoven and Brahms. I was more drawn to sound masses and stacked minor seconds and tritones than functional tertian harmonies. However, with *Echo Chamber* it was important that the text and sentiment of the words be the central focus, and that my aesthetic leanings might have to be stretched or expanded. Harsh sonorities for the sake of my personal aesthetic leaning could not be the central focus of the piece. The music had to both reflect the narration and be in dialog with it.

Having read Grant's text I had some ideas as to how I could approach this problem, but there was a bigger issue at hand, that being that I did not have recordings of the text. In order to write music that would enhance the emotion impact of the text I needed to first know the emotional state of the narrators. This problem could only be resolved by having the text read and recorded prior to writing the acoustic portion of the composition. By recording the narration first I would have a clearer idea of the dramatic arc of the composition, which would help to guide the writing process and decisions related to energy and proportions related to the form. It would also ensure that all of the string quartet accompaniment would be written in service of the narration, theoretically allowing the message of the text to be clearly communicated and received.

Chapter 2: The Text and Recording the Narration

The narration in *Echo Chamber* was written by Eric Grant, a writer based in Minneapolis and a friend of a close colleague. When I decided on the topic of the narration I searched for texts that were already in existence, but did not want a text that explicitly mentioned the 2016 election. This decision was based primarily on the topic of the piece being bigger than what is encompassed by the current political climate in America; it is a symptom of a problem of inequality and perceived superiority by certain groups of Americans, and has existed for centuries. I also felt it was important that the text take into account the viewpoint of everyone who experiences hatred based on skin color, ethnicity, religion, gender and sexuality. Unfortunately, I could not find anything that covered all aspects of what I was striving for in a text. I was then put in touch with Eric, and after some discussion of the project Eric began working on the narration.

However, Eric, like myself, is also a white male, which made this project problematic from an ethical standpoint (ethical issues discussed further in Chapter 3). While a skilled writer can embody and create characters with experiences to which he or she has no personal exposure, this project would require Eric to do that in a way that would have to seem genuine, and more importantly would have to be relatable to those reading the narration. The following excerpt is a description in Eric's own words on his approach to writing this text:

(The Youtube videos referred to in this excerpt contain the audio heard as spoken text in the opening 2 minutes of *Echo Chamber* and in the electronic interludes)

When approached for this project I was given YouTube videos of individuals voicing their fear and hate. In the last few decades it's true, industry in America has

been in decline creating an environment where predominantly Caucasian rural communities are struggling and looking for answers and help for their problems, which hasn't been coming. However, the struggles of minority groups and women are hundreds if not thousands of years in the making, and while great strides have been made in civil rights, we find that it's no longer white superiority per se, that drives the discrimination and hate, it's the feeling that issues that are most important to white, blue collar workers whose jobs have been lost, are being marginalized at the expense of national conversations on transgendered bathroom use, something most rural white Americans were suddenly forced to have an opinion on. And the reaction was the standard Caucasian response when met with something they don't like. Fear and Hate.

When writing this piece, I wanted to express not messages of love and peace, because honestly, that is not the voice we all feel right now. Look at social media and news outlets. The anger everywhere is thick and palpable and I think it's ok to express that. I was given samples of Jon's musical voice and heard his vision for this work and through conversations with him I realized we weren't going to wrap this piece up in a nice little bow of hope. No, we are angry. All of us. And in that light I decided to write something less lyrical and more like a spoken word piece that could express full sentences using aggressive language. I also chose a voice that directly addresses those angry white voices because what they fear is a myth; chasing the purple dragon of blame, and the "you" I refer to is a direct conversation with those people. Honestly, "you" has a right to be angry, but so do those who've been marginalized a lot longer and whose struggle has gone on long before their dominance was threatened. But I'd like them to "see" what it is they hate, not the purple dragon, but the real, the fear that Muslims, homosexuals, black people, Hispanics, and women who are watching their bodies get legislated by men are, and have been, feeling for much, much longer. I am unapologetic, just like the videos that Jon included. I didn't want to meet hate with love, like Martin Luther King Jr. advocated, but to meet hate with an admission that "I" hate "you" too, and it's because maybe "we" don't see each other. Only in the last section do I express a

> sense of hope, but it isn't something that I necessarily see happening any time soon. Patience isn't historically part of white society, so it was important to me to express that.

Eric's approach to writing text led to an important decision that needed to be made, that being how the text would be presented alongside the string quartet and the electronic sounds. While I was initially planning for pre-recorded narration, we also discussed the option of a live narrator. We both felt that having the words come from a live narrator would be more effective in humanizing the voice and emotions that are presented. This approach is problematic from a pragmatic standpoint in terms of performance opportunities and rehearsal time. Also, the narration is told from the point-of-view of at least four, if not five, narrators. From a purely compositional and narrative standpoint it did not make sense to use a single narrator. The solution was to have multiple narrators record the text, and to ideally have these speakers be people who identified with the text that Eric had written.

The people who participated in reading/recording the text (Quetta Carpenter [paragraphs 1 and 2, the paragraph on misogyny and the final paragraphs], Matt Frazier [the "race poem" section"], Joshua Shank [the "faggot poem" section] and Akshaya Tucker [the "poem about God"]) were chosen because they were given the text ahead of time and agreed to read based on their relating to the text and/or the central message of the piece as a whole. It was important to Eric and me that the narrators have some personal connection to the text they would be reading. Most importantly, I did not instruct the narrators on how to read the text. This was done partially for compositional purposes, and partially for ethical purposes (discussed in Chapter 3). My compositional justification for this approach was that I wanted the text to direct the form and narrative of the piece. The syntactical approaches, points of tension and release and dramatic arc of the entire composition would be drawn from the recorded text, and I did not want to interfere with

that. I wanted the recordings to sound real and emotionally raw, and I felt that was best left undirected on my part.

The recorded narration represents the majority of the spoken-word electronics, but there is a secondary element, which is excerpted audio from numerous Youtube videos. These clips (from this point referred to as “candid audio”) contain excerpts of real people sharing hateful, albeit very real, feelings about women, minorities, immigrants, Muslims and the LGBTQ community. The candid audio takes on the role of an antagonist in the composition and act as a framing device for the overall form (see Chapter 4.4 on narrative and syntax). The candid audio was created by excerpting short clips and phrases from a number of videos using audio recording and editing tools found in the software Audacity.

However, there is one moment of candid audio that is not taken from Youtube clips. These are recordings of my friends José Martinez, Joshua Shank and Katya Shevchenko related to their experiences of intolerance or outright hatred. Their candid audio clips appear just after the climax of the piece and act as a foil to the candid audio clips taken from Youtube. They were given no instruction on what to say or how, just to share what they felt. The result was three real stories, shared with a sense of melancholy and longing. That there are only three of these stories, as compared to the numerous candid clips of hate speech, was intentional and reflects the under-representation of marginalized voices in the current (2017) social and political climate.

Chapter 3: Ethical Issues

The idea of even approaching this piece was incredibly daunting in the early stages. It was unclear how I would be able to compose a piece like *Echo Chamber* in a way that made an effective social statement in an appropriate way, but also did not claim to be me, the composer, speaking for the groups represented in the piece. It was never my intention to speak for anyone, which is why I outsourced the writing of the text. I knew from the beginning that there was the inherent issue of my dissertation being immediately taken as a "white savior" piece: an example of privileged white males (myself and Eric) acting as the voice for those less fortunate (the narrators in the composition).[7]

Eventually I had to make peace with the fact that there was most likely no way for *Echo Chamber* to avoid the label of white savior art, but it still needed to be written and I found myself with a new challenge of making this a piece by a white male, but one that expresses the voices of others. The first decision, as outlined in Chapter 2, was to utilize pre-recorded narration of multiple speakers. This prevented having one narrator speaking for the collective, which I thought would take away from the sincerity and realism of the text. This also allowed me to collaborate with multiple people who felt directly effected in some way by hatred and intolerance, and expressed clear interest in working on the project. By using the voices of people who related to the text, the narration is portrayed with a sense of realism. Had I recorded people with no connection to the text, I would have run the risk of the narration seeming forced and inauthentic, which could have weakened the impact of the text.

7 Matthew W. Hughey "The Savior Trope and The Modern Meaning of Whiteness," in *The White Savior Film* (Temple University Press, April 14, 2014), 1-8. The opening chapter of Hughey's book discusses the topic of the white savior complex specifically as it is used as a narrative trope in film. My use of the term applies it to music as a more general example of what could be perceived as "white savior art" from the primary creators being white men acting as a voice of opposition to the hardship of minority groups to which we do not belong.

This is also related to my decision to not instruct the narrators how to read the text. Taking this approach to recording the text was particularly important to the integrity of the piece. I wanted to show the level of anger, desperation, sadness and fear that people were experiencing, and I wanted it to be as real as possible, as real as the candid audio clips of hate speech if possible. But these are not my own experiences, and it is not my place to tell those who agreed to read the text how it should be read. I wanted the music to be a reflection of the narration, and I wanted the narration to authentically portray the emotional intensity of the text, and my interference would have taken from that. My only influence on the narrators was that I sent them all a two-minute clip of electronics for the introduction, which contained the candid audio clips taken from Youtube. This was done initially to give them all an idea of the aesthetic leanings of the piece, but was not intended to influence the reading of the text. I made it clear that the text should be read in the way each narrator felt it *should* be read, and how it should be *heard*.

Chapter 4: Musical Analysis

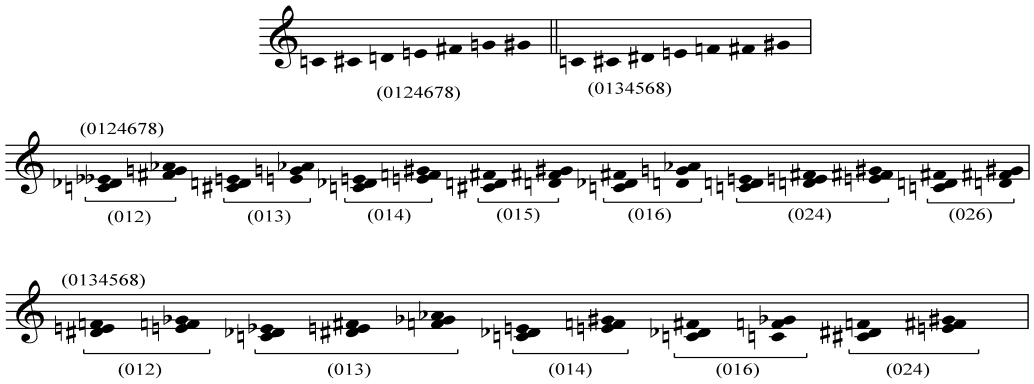
The following is a theoretical analysis of the musical framework in terms of pitch, gestural language, motivic development, electronic sounds (how they are constructed and used structurally), use of aleatory and a formal analysis. Each topic will be discussed individually, and will then be viewed as a whole in section 4.4, analyzing musical structure as a dichotomy of narrative and syntactical approaches to create a cohesive formal structure.

4.1 Pitch Structures

The pitch structures throughout *Echo Chamber* are based on two pitch class sets: Set 7-11 (0134568) and 7-15 (0124678).[8] These were chosen primarily because both are all-interval sets. These two pc-sets have been used in my previous works because of their versatility in terms of interval content – both contain all chord qualities, set 7-15 is symmetrical around pitch-class 4, and set 7-11 contains two 3-2 sets (013) divided by pitch-class 4. Both sets are also heptachords, meaning they can be treated as synthesized scale sets for pitch consistency throughout a composition. Furthermore, they contain a number of identical subsets that can used to transition from one pitch collection to another (7-11 to 7-15 or vice versa). Figure 1 below shows the two heptachord supersets and the available trichord subsets that can be derived from each.

8 Allen Forte, *The Structure of Atonal Music* (New Haven, Yale: 1973), 179-81. All references to set classes, prime forms, and forte numbers are taken from this source.

Figure 1 – PC Sets 7-11 (left) and 7-15 (right) and the primary trichords extracted



Before moving forward to more in-depth analysis of how pitch structures are used within the piece, it will be helpful to delineate the piece into formal sections. The overall form is divided sectionally by narrator. Figure 2 below shows the sections by name and measure numbers.

Figure 2 - Sectional Divisions of Formal Structure

Section Topic	**Measure Numbers**
Introduction	Introduction m. 1
Section A	Opening Paragraphs mm. 2 - 47
Transition 1	Transition 1 mm. 48-58
Section B	Race Section mm. 59-87
Transition 2	Transition 2 m. 88
Section C	Homophobia mm. 89-145
Transition 3	Transition 3 mm 146-147
Section D	Religion mm. 148-174
Transition 4	Transition 4 m. 175
Section E	Misogyny/Climax mm. 176-204
Section F	Post-Climax mm. 205-238
Section G	Final Paragraphs mm. 240-end

Each section of the piece utilizes the two supersets differently in terms of organization and distribution to the string players. This approach to pitch serves two functions: 1) it maintains an interrelated pitch structure throughout the piece, and 2) ensures that each section adheres to some kind of organizational method, instead of relying on a single method for the entire 21 minute composition. The following sections provide more detail on the how the supersets are used in each section

4.1.a Introduction

The first measure of the piece is built on the set 7-15 (0124678) presented as four independently played melodic lines that gradually emerge over the course of the first two minutes and thirty seconds of the piece. Figure 3 shows the individual pitch class sets assigned to the four string parts in normal order and prime form.

Figure 3 - Pitch Class Set of the Introduction

Instrument	Normal Order	Prime Form
Violin 1	{0,1,4,6,7,8}	(012478)
Violin 2	{5,6,B,0}	(0167)
Viola	{B,0,1, 3,5}	(01246)
Cello	{B,0,1,3,5,6,7}	(0124678)

Only the cello contains pitch classes that make up a set whose prime form is the full superset. The violins and viola are related in that the prime forms of their individual pitch sets are subsets of the 7-15 superset. Furthermore, violin 2 and the viola present literal pitch class subsets from the cello. The first violin is the outlier, as the part contains pitch class 4 and 8, neither of

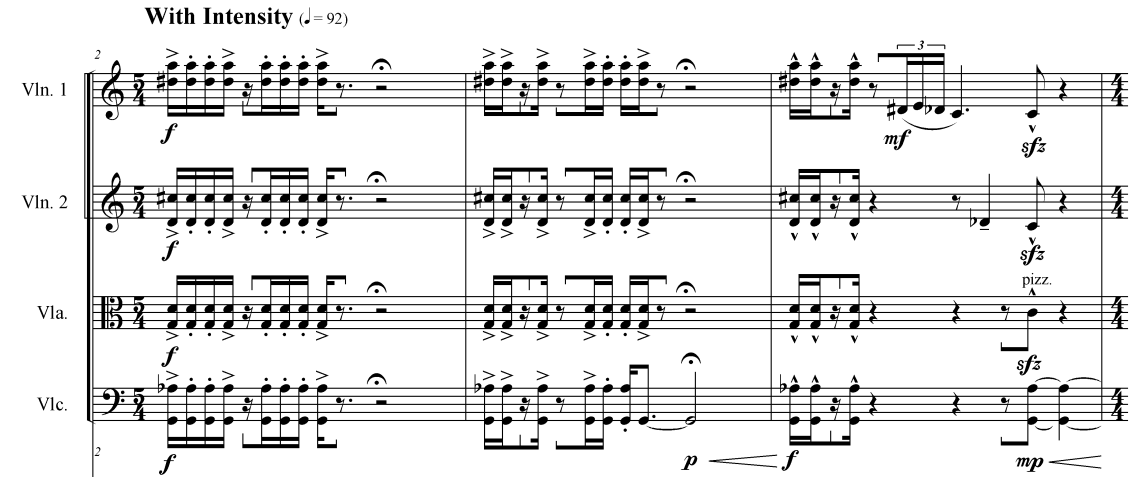
which is shared with the other instruments. This is done primarily to create the impression that the violin is somehow disconnected from the other instruments through containing two pitches outside of the other three instruments' collections. The first violin also creates a smoother transition into Section A at m. 2, which begins with the set {0,1,2,6,7,8} as an articulated widely scored chord between the four instruments.

4.1.b Section A

The approach to pitch in Section A is somewhat less organized than later sections of the piece in that it does not adhere strongly to set 7-11 or 7-15, but instead explores the common trichords and tetrachords contained in each heptachord, and freely moves between the two supersets. The central focus of pitch material in Section A is to set up the dissonant sound world of the supersets, and also to introduce the primary motives that reappear throughout the rest of the piece (see Chapter 5).

When the section begins at m. 2, the four instruments play a jabbing unison rhythmic figure with the chord {0,1,2,6,7,8}, a subset of set 7-15. This chord is repeated in m. 3 with a slight variation in the rhythm, and by m. 4 measure the pitch structure begins to break down when the violin introduces a melodic gesture containing pitch classes {0,1,3,4} with prime form (0134). This represents new melodic material, as well as a movement into new pitch territory, since (0134) is not a subset of (0124678). Figure 4 below shows the opening chord and the melodic motive introduced by the first violin in m. 4.

Figure 4 – Stabbing chords in m. 1 and violin 1 melody in m. 3



The music of Section A never fully settles on or favors set 7-11 or 7-15. There are three clear arrival points in this section - at mm. 17 (**meno mosso**), 36 (**Faster**) and 47 (end of section) - each settling on a chord with either a reduction or increase of energy. These arrivals contain the pitch class sets {7,A,B,1} or (0236) at 17, {0,1,3,4,5,6} or (012356) at m. 36, and {2,3,5,6} (0134) at m. 45 which settles into a (2,3) dyad at m. 47. Of these three arrivals, m. 17 and m. 36 contain pitch class sets that do not belong to either 7-11 or 7-15. These sets have leanings toward whole-tone collections with {7,B,1}, {0,4,6}, and {1,3,5}, which disrupt any feeling of arrival. It also implies continued forward motion by never fully landing on (012678), but instead settling on an (0134) subset that was introduced, but not fully explored.

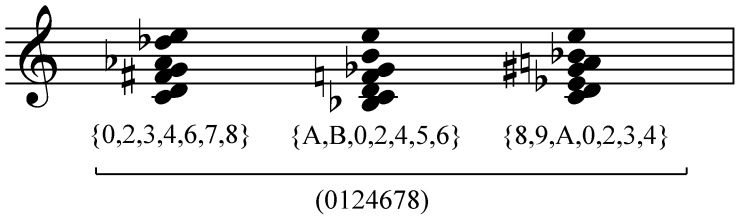
4.1.c. Transition 1

Following the final accented cutoff from the viola in m. 47 there is a brief moment in which low resonant drones fade in. The first violin begins playing a rhapsodic solo line, all of which is again derived more from trichord relationships, with no one measure fully settling on

either of the two supersets. For example, in mm. 49-51 the violin plays the pitch classes {0,2,3,6,7,8} with prime form (012568), from 52-53 {B,0,1,4,7,8} with prime form (012367), and from 54-56 {8,A,B,2,4,5} with prime form (013679). While these are similar, the meandering violin solo continues to explore pitch class sets beyond those introduced in Section A.

The second violin, viola and cello, however, create consistent progressions of (0124678) sets throughout the first transition. The three instruments are given pitches in a box and are instructed to choose and play independently and indeterminately, sustaining long tones of whichever pitch(es) they choose. Three different chords are created in this section, 1) superset 7-15, 2) 7-15 at T10, and 3) 7-15 at T8. The process of transposing the 7-15 superset collection two times at T10 maintains a constant overall pitch collection in each chord while also providing a sense of harmonic motion throughout the transition. Figure 5 below shows the sequence of three chords between the second violin, viola and cello during the Transition.

Figure 5 – Chord sequence from violin 2, viola and cello in Transition 1



Additionally, beat. 4 of m. 57 contains the chord {7,8,A,B} or (0134), which quickly collapses to the A/Bb dyad, which would be {7,8,9,A,B,} or (01234), which does not come from 7-11 or 7-15. However, when looked at as two separate entities (one an afterthought of the other), the A/Bb dyad combined with the D/Eb dyad at m. 47 they form the set {9,A,2,3} or (0156), and the final vertical harmony of m. 57 {7,8,A,B} is (0134), both prime forms are subsets of 7-11.

4.1.d. Section B

Section B begins at the end of the fermata at m. 59, and focuses on reactions toward racism. The pitch structure is organized as 4 ordered series of pitches (octave taken into account), derived from ordered hexachords in rotational arrays, as explained by Robert Morris in his 1988 article "Generalizing Rotational Arrays."[9] The process for creating this system came from first creating four 4x4 pitch class arrays built on hexachords derived from the 7-11 and 7-15 supersets. The first array is constructed from set (0146) with each successive row a permutation of the original, row 2 at T_9I, row 3 at T_6 and row 4 at T_3I. After the array is constructed it is then rotated so that the value in row 2 column 2 is row 2 column 1, row 3 column 3 is row 3 column 1 and row 4 column 4 is is row 4 column 1.. The original array and the rotation of the array is shown in Figure 6.

Figure 6 – Original and Rotational Arrays used in Section B

	Original Array				**Rotated Array**			
(0146)	0	1	4	6	0	1	4	6
	3	5	8	9	5	8	9	3
	6	7	A	0	A	0	6	7
	9	B	2	3	3	9	B	2

This process is repeated with the next sets, which are (0134) and (0246). With these rows, the rotated array is again shifted, so that column 2 becomes column 1 with the (0134) array and column 3 becomes column 1 with the (0246) array. These can be seen in Figure 7below:

9 Robert Morris, "Generalizing Rotational Arrays," *Journal of Music Theory*, 32 no. 1 (Spring 1988): 75-80.

Figure 7 - Original and Rotated Arrays for (0134 and (0246)

	Original Array				**Rotated Array**			
(0134)	0	1	3	4	1	3	4	0
	3	5	6	8	6	8	3	5
	6	7	9	A	A	6	7	9
	9	B	0	2	9	B	0	2
(0246)	0	2	4	6	4	6	0	2
	3	5	7	9	9	3	5	7
	4	6	8	A	4	6	8	A
	7	9	B	1	9	B	1	7

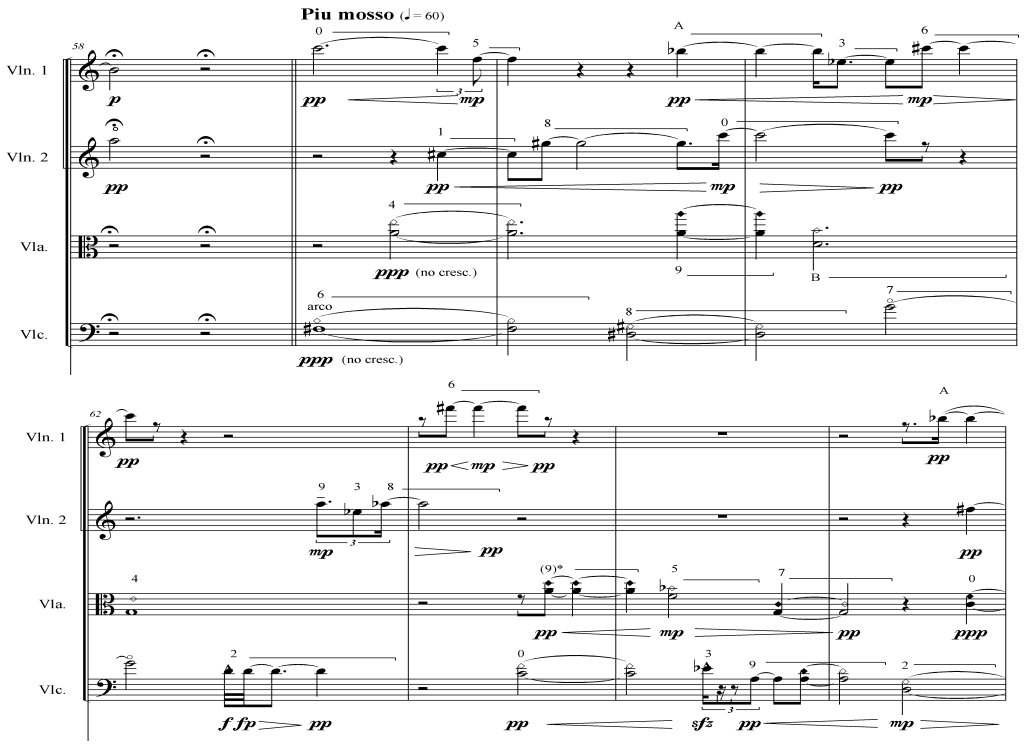
After creating the rotated arrays, the values of corresponding vertical columns were concatenated and used as melodic series for each instrument – column 1 from each rotated array was concatenated into a series, column 2 from each array was concatenated, etc. Instruments were then assigned to a corresponding series by column - violin 1 on column 1, violin 2 on column 2, etc. This results in a 12-note pitch series for each instrument, but because of the rotated arrays, each series has a unique pitch sequence and allows for repetition while simultaneously resulting in vertical harmonies that have mostly been present throughout the piece to this point. Figure 8 shows the four individual pitch sequences:

Figure 8 - Pitch Sequences from the rotational arrays

Violin 1	05A316A94949
Violin 2	6809386B6368
Viola	496B45700563
Cello	6372039227A7

Figure 9 below shows how these pitch sequences are orchestrated in the context of the piece in mm. 58-63 of Section B. This process continues until the tremolo chords interrupt the sequence at m. 68 which alternates between a (0124678) set on the first chord, a (0134568) on the second and back to the (0124678). The music immediately returns material similar to 58-68 to finish out the pitch sequence, landing on a (0124678) set at m. 75, followed by a (0134568) set in m. 76. The chord at m. 76 rests on an E-G dyad, and is gradually dissolved into the set {4,5,A}, prime form (016) at the culmination of Section B at mm. 83-84. The return of the {4,5,A} set demonstrates that no sense of "resolution" - in terms of finality or closure - was achieved from the pitch sequence presented.

Figure 9 – Pitch sequence written out in mm. 58-63



The final measures of Section B present an almost cadential motion to G# with an F#-A dyad collapsing to G#, however, the first violin plays a G only ¼ tone sharp, again creating a murky sense of resolution.

4.1.e Section C and Transition 3

Section C is centered around similar pitch relationships and motivic materials that were established in Section A, but centered primarily around set 7-15. The opening chord stabs return as a central motivic figure, at times in the exact same voicing as the opening measures of Section A. The four-note violin motive from Section A (as shown in Figure 4) returns, but is changed to fit within the (0124678) pitch collection. In its original form, that motive was only possible within the (0134568) set, but this section begins to develop the idea, primarily through transposition and inversion of the contour, and variation of the interval content to be derived from the 7-15 superset.

Most of the stabbing chords are made up of {2,3,8,9} (prime form (0167)), as two dyads - D-G# and D#-A. These can be found in m. 93 and mm. 112 -123 in different voices, eventually culminating at the climax of Section C at m. 124, wherein the original chord presented at m. 2 is heard in its original voicing. Following the climax of Section C at mm. 125-28 the pitch structure begins to dissolve into tritone dyads or trichords made up of (013), (014) and (016) prime forms. Section C, however, eventually lands on an (0135) sonority at m. 139. This is a significant moment in the piece, as it is the first time a section arrives strongly on a sonority fully derived from the 7-11 superset.

Section C is followed by Transition 3 at m. 147, another quasi-improvised section similar to the first transition. In Transition 2 the violins and viola improvise short articulated attacks from a tetrachord with prime form (0124), each tetrachord containing different pitches. The cello improvises from a (0135) tetrachord. This is a callback to the Introduction in which three

instruments improvise from one pitch collection while the fourth presents a slightly different pitch collection to set it apart and disrupt any sense of total uniformity.

4.1.f Section E

The pitch material in section E is the first example of a strikingly different approach. The pitches in Section E are derived from a hymn titled “Broken, Bitter, Bruised, We Come” by Daniel Charles Damon, written in 1988. This hymn was chosen to accompany the narration reacting to religious oppression, because it is a hymn whose lyrics are about welcoming any and all people who are seeking help or refuge. The chord progression for the entire hymn is shown below in Figure 10. The musical accompaniment in Section E is not a direct quotation of the hymn, but is instead presented as broken statements by the violins playing the treble clef staff of Figure 10 and the viola and cello playing material from the bass clef staff..

Figure 10a - Chord progression for “Broken, Bitter, Bruised, We Come”

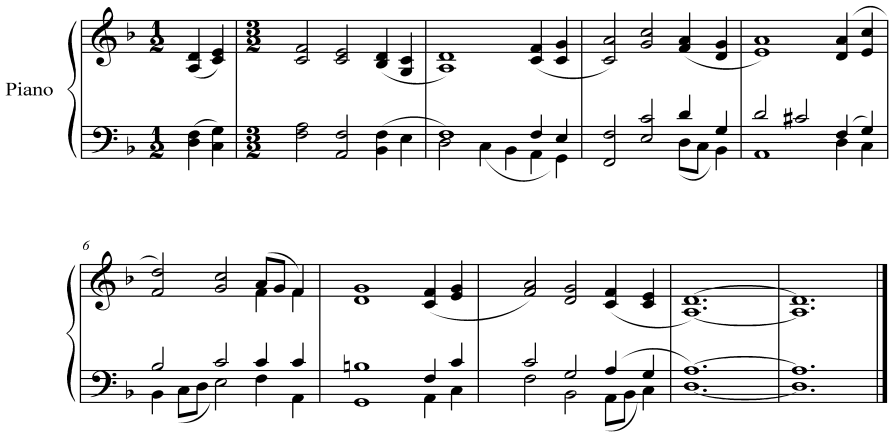
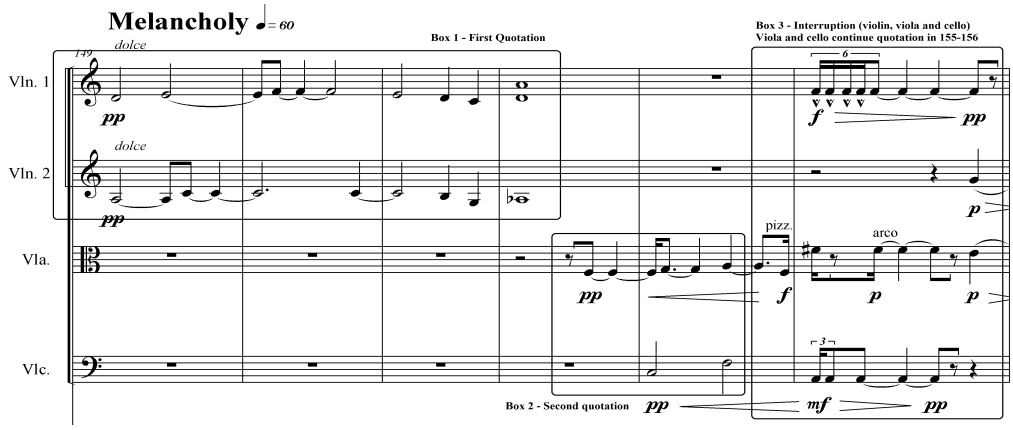


Figure 10b: Lyrics to “Broken, Bitter, Bruised We Come”

> Broken, bitter, bruised we come, needing presence, knowing none.
> Angry, hurting, heart and mind, praying God is just and kind
> Unbelieving, still we come, needing aching, spirits numb;
> back to God, our only home, bringing all, we come, we come.
> Jesus, where else could we go? Your love is the love we know,
> Yours the way through age and youth, yours the words of love and truth
> As the ages come and go, lives to you, like rivers, flow;
> Those who doubt and those who know, nonetheless will find it so

The use of the hymn is an attempt at a statement about the double-speak that results from religious and political discourse, in which the message is welcoming, but the reality is that millions actually do not feel that way, and the rhetoric of certain members of religious establishments speaks out against non-Christians. This is represented by the preacher's speech in Transition 3, wherein the speaker talks about the foundation of the “Christian nation...is under enormous attack.” The disconnect between the welcoming message of the hymn and the worldview of those who feel oppressed by certain members of the Christian community is established by the broken quotation of the hymn and the interjections of dissonant notes and gestures. Figure 11 shows mm. 153-156, an example of the quotation being interrupted by the more dissonant pitch collections. Interjections of this nature happen frequently in Section E, but are short-lived and are used as rhetorical device to interrupt the more serene music representative of hope and, in this case unity. They also act as a reference to earlier pitch collections, implying that they are not gone, but are simply simmer below the hymn quotation.

Figure 11 – Section D interrupted quotation



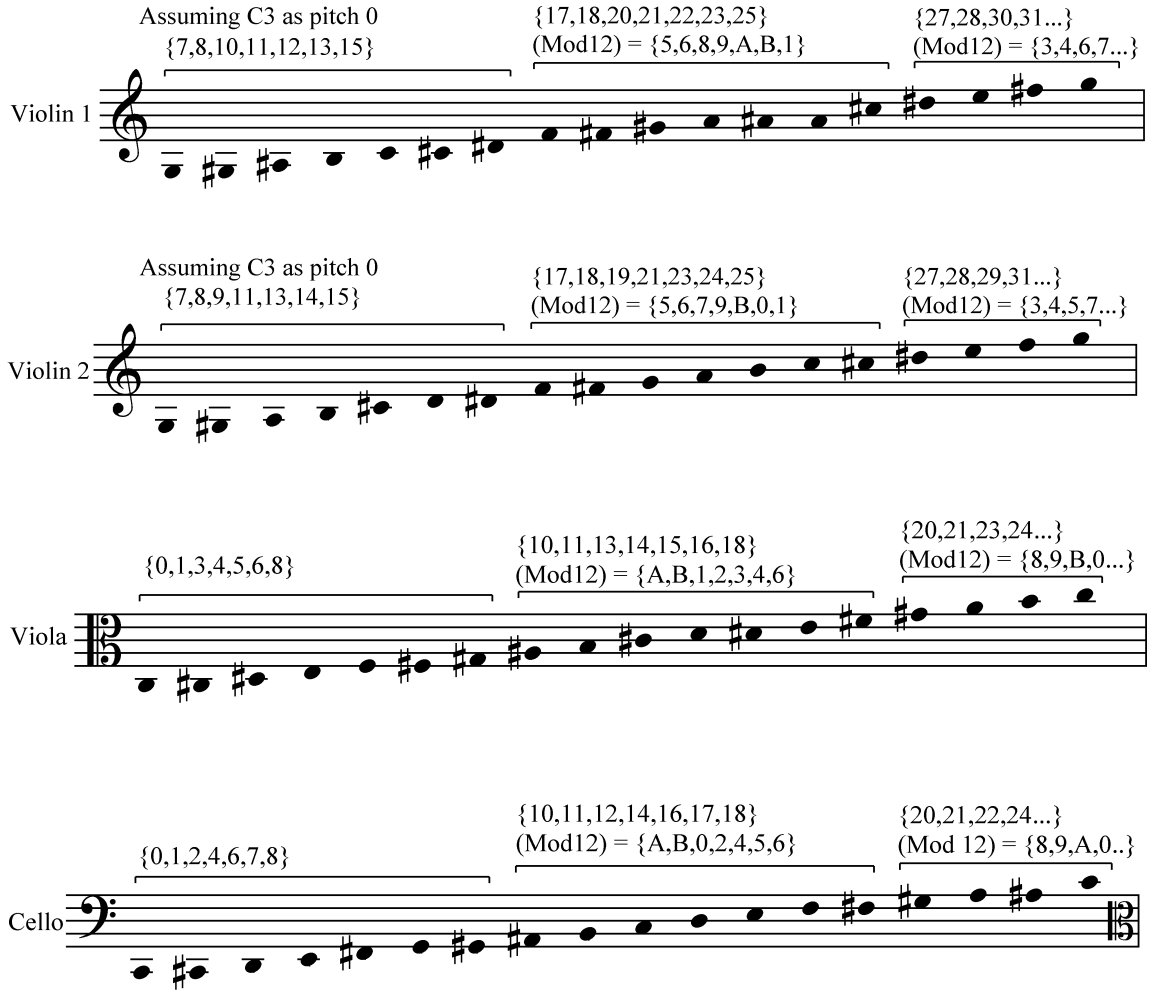
The boxed section show the three distinct section of the opening Section D. Box 1 is the initial quotation, Box 2 is the continuation of the quotation (bass and tenor line of mm. 1-2 of the original tune), and Box 3 is the interruption.

4.1.g Section F/Climax

The pitch material from Section F through the Climax (mm. 177-205) maps the 7-11 and 7-15 collections onto the ranges of the string instruments as scalar pitch collections replicated at MOD10. For example, the cello is assigned (0124678), mapped onto its range at MOD10, creating a pitch series of C2-C#2-D2-E2-F#2-G2-G#2-A#2-B2-C3-D3-E3- F3-F#3 and so on. Notice that instead of the superset mapping onto itself again at the octave, it maps onto itself at T10 as a result of using MOD10 instead of MOD12. This process is repeated with the viola mapping (0134568), violin 2 mapping (0124678) and violin 1 mapping (0134568). This particular method of mapping pitch sets and overlapping interval series onto pitch space to create a filtered range of pitches is taken from Xenakis' approach to pitch and rhythm sieves.[10] Figure 11 shows the four instruments' pitch sets mapped onto the first two octaves of their respective ranges (the first two octaves of each sieve).

10 Iannis Xenakis, "Sieves," in *Formalized Music*. (Stuyvesant, NY: Pendragon Press, 1992), 268-67. My use of sieves is borrowed from Xenakis' original technique, which I learned from studying handouts as a graduate student. Later studies from *Formalized Music* reinforced my understanding of the approach, and my use in *Echo Chamber* is my own approach to filtering pitch structures inspired by Xenakis' technique and use in his compositions.

Figure 12 - Pitch Sieves for the first octaves of each instrument



Xenakis' method of creating sieves involved taking an interval series with some degree of pitch offset, mapping that series onto a given range and repeating the process with a new interval and/or new offset. The result is a filtered range of pitches that has similar interval content throughout, but has different interval content specific to each octave. My approach to this method has developed over the years, and in recent pieces I have settled on the method outlined above by sequencing a PC set with a modulus other than 12 to create irregular overlap between octaves.

The melodic and gestural material of Section F and the climax is similar to that found in Section A and in Section C, but because the pitch structures on a localized scale change drastically I am able to create thicker vertical dissonance and greater linear pitch independence. To this point in the piece the stabbing chords all have the same (0124678) collection or some subset of tritones taken from that collection. The stabbing chords could land on any number of dissonant and crunchy collections, as the instruments reach a point of total independence in terms of localized pitch content in Section F.

This approach to pitch becomes crucial at the climax at m. 198. This is the final moment of the piece in which indeterminate notation is used. Each instrument plays freely through an extended melodic line, each instrument with a different tempo marking. These tempi are not necessarily exact, but are simply general guidelines for tempi. Each member of the quartet reaches complete independence in terms of pitch collections, presents the most frantic gestural material used in the piece, and play against a cacophony of electronic sounds and hate speech revived from the introduction. The idea is to create an environment in which everyone is attempting to shout over one another, with nothing actually heard, or accomplished other than chaos. The hate speech recordings present aggressive yelling, the strings are playing violently over one another and the electronic sounds create stabs and explosions that sweep across the stereo field. This culminates in a massive explosion and gradual dissolving of the texture during the fermata at m. 204.

4.1.h Post-Climax and Closing Paragraphs

The music that immediately follows the climax is the first example of primarily tertian harmony in the composition, presented as a chain of sustained tones passed through the instruments. The pitches are still derived from the 7-11 and 7-15 PC supersets, now presented as a

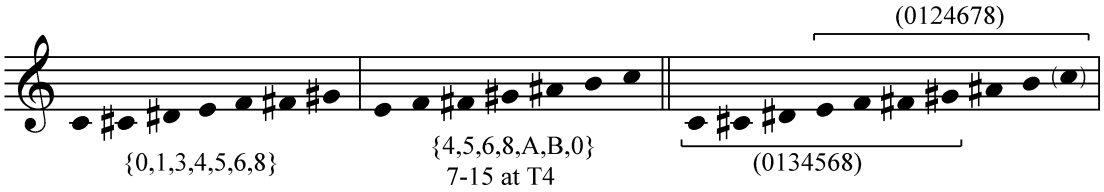
nine-note collection created by overlapping the two supersets. Figure 13 shows how the two sets overlap to create the complete nine-note superset. Two scale supersets are used in the post-climax, one at T_1 assigned to the violins and one at T_6 assigned to the viola and cello. These collections are used to create a progression of tertian trichords, quartal and quintal harmonies. The chord progressions are divided between the two pairs of voices and the chords are outlined through parsimonious voice leading between the individual parts.[11] By transposing the pitch collections between the two pairs of instruments, the chord progression is presented at one pitch level in the violins, and in the viola and cello at T_5 down two octaves. The chord progressions are displayed in Figure 14a as blocked chords and are shown in Figure 14b in their musical context at mm. 205-214.

11 Richard Cohn, "Neo-Riemannian Operations, Parsimonious Trichords and Their 'Tonnetz' Representations," *Journal of Music Theory*, 41 no. 1 (Spring, 1997): 1-2. This section is made up of trichords derived from the superset pitch collection, presented as tertian trichords through parsimonious voice-leading as outlined by Cohn in the introduction of his article. My application is loosely related to the PLR-family of operations as outlined by Cohn in the introductory pages of his article.

Figure 13 - Nine-note collection used for creating tertian harmony following climax

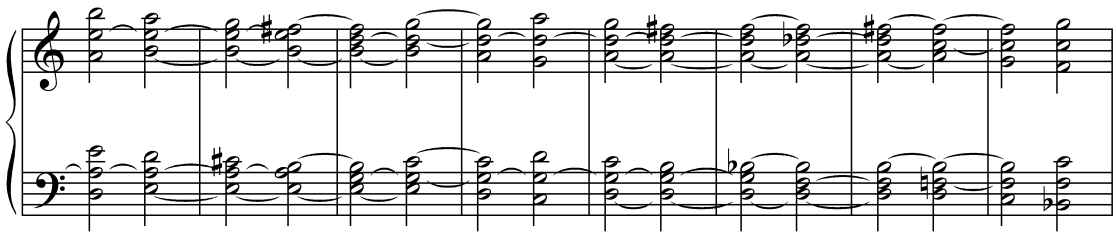
Cell 7-11 0134568
Cell 7-15 at T4 4568AB0

(continued on the following page)



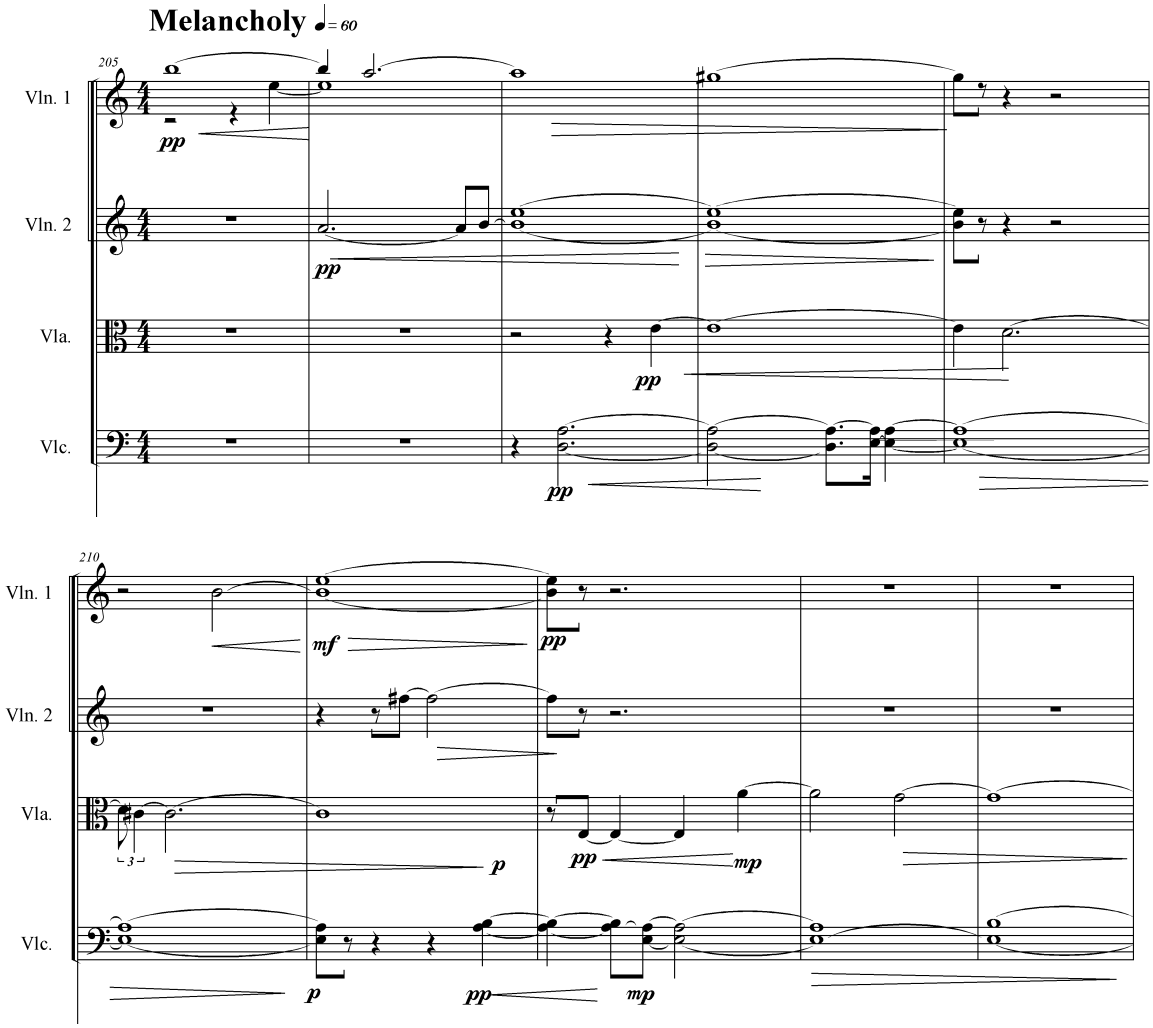
The {4,5,6,8} portion of 7-11 overlaps with the start of 7-15 at T4. By transposing 7-15, the pitch classes overlap and cause 7-15 to end with the same PC that begins the untransposed 7-11. The combined superset contains multiple instances of each chord quality, including quartal and quintal harmony. The top invented scale collection is used for the violins and the bottom scale collection is used in the viola and cello.

Figure 14a - The chord progression created through parsimonious voice leading of the scale set derived from overlapping supersets



(Figure 14, cont.)

Figure 14b - The chord progression in the context of the piece



The violins gradually proceed through the chord progression on the top staff of Figure 13a. The viola and cello gradually work through the chord progression on the bottom staff of 13a. When the two are combined they create a meandering bitonality from their individual tertian harmonies

The parsimonious voice-leading progression is aurally and tonally the point of farthest remove from the use of the supersets in the rest of the composition. Throughout the work the 7-11 and 7-15 PC sets are used for their more dissonant and unstable characteristics with stacked

tritones, major/minor seconds and angular melodic figures. The music that immediately follows the climax shows a different approach to using the same pitch structures. The nine-note scale collection that is derived from overlapping the 7-11 and 7-15 sets does not dictate the manner in which the pitches must be used, but allows for a synthesis of the two collections to be used for the softer, and rhetorically more appropriate consonant and stable harmonies that are presented from mm. 205-238. The narration consists of recordings of José, Josh and Katya sharing personal stories of a more melancholy and reflective nature; thus the music also demonstrates that change in mood and character.

Section G marks the final return to the material used in Section A. The pitch material becomes more consistently connected to the 7-15 superset, as demonstrated by the stabbing chord that is returned to over and over again in the final section of the composition. This is further established by landing on the sonority established in m. 2 in the final measures of the piece, now repeated as 16th notes at m. 267. These finally land on a (012367) chord in the final measure of the composition.

While the arrival of the final chord creates some semblance of compositional finality in the work, it leaves the narrative unresolved and open-ended. The only sense of resolution comes from the chord having a similar structure as the opening Section A chord in mm.2-3, familiarity from the chord being repeated through the duration of the 21-minute work, and the rhythmic emphasis it is given. However, nothing in terms of pitch collections has been settled. The final collection does not fit into (0124678) nor does it fit into (0134568). It is a new and distorted hybrid version of the two governing supersets. In short, even though throughout the piece pitches are removed, added, stripped down to subsets, reordered, presented with varying consistency, filtered through quotation, used as pitch sieves, and ultimately a return to the a similar opening sonority, none of the

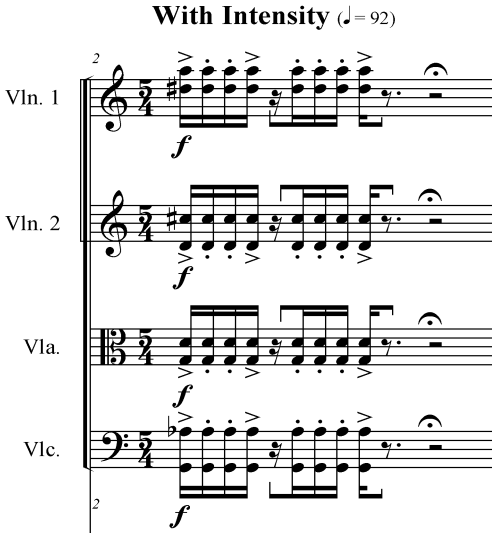
implications of pitch exploration are realized or justified. In the end there is no reconciliation between the opposing supersets.

4.2 Motivic Development

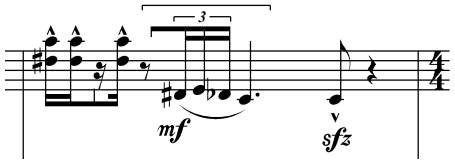
Echo Chamber presents a fairly limited palette of motivic material, most of which is presented in Section A (mm. 2-47). There are four primary motivic ideas used throughout the work, with nearly all material relating to these gestural figures in some way. The motivic ideas are shown below in Figure 15.

Figure 15 - The Four Primary Motives of *Echo Chamber*

1. Stabbing Chords - as heard in mm. 1-2

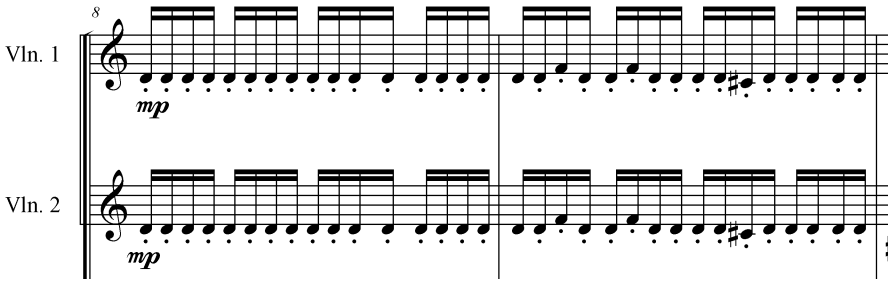


2. 4-note Melodic fragment - as heard by violin, beat 2, m. 3

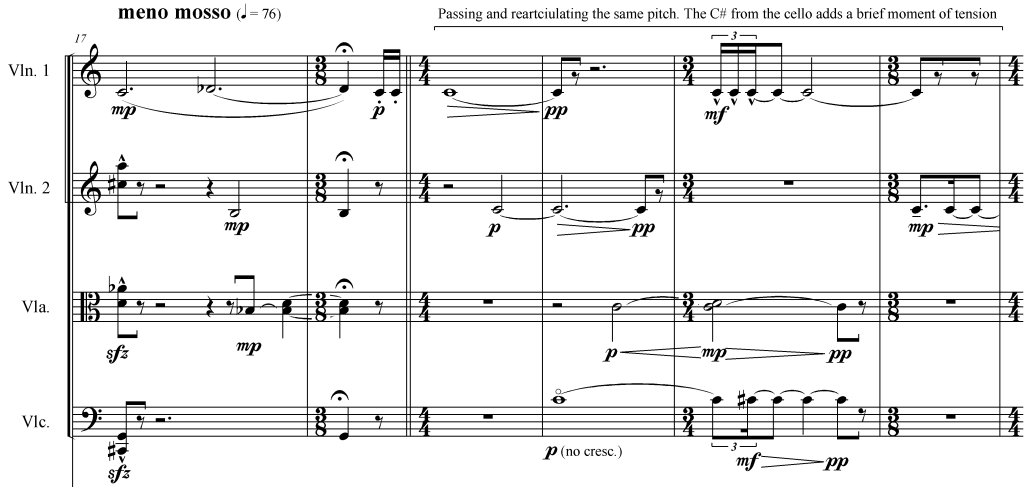


(Figure 15, cont.)

3. Motor rhythm - as heard by violins 1 and 2 in mm. 8-9



4. Sustained soundbed - as heard passing through all instruments m. 19 and on

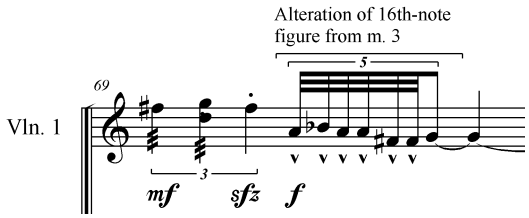


My method of composing has often been driven by deriving a short list of melodic, harmonic and/or gestural material and working out as many variations of that material as I can find. This is a technique borrowed from Brian Ferneyhough's approach to rhythmic figuration as a means of creating ratio relationships between gestural ideas through rhythmic expansion,

compression and distortion.[12] This is also related to Schoenberg's idea of *Grundgestalt.*[13] However my approach is more closely related to Ferneyhough's reworking of smaller overlapping "figures," as this is where the majority of my focus and score study has been applied.

Each section of *Echo Chamber* presents all of the ideas listed above in some way, and it is intended that the trajectory and development of these ideas can be heard within the piece. Taking, for example, the violin melodic fragment introduced in m. 3, which appears over and over again in Section A, often with the 16th-note triplet rhythmic figure that is used with the first instance of the idea. Looking at Section B, a distorted version of this motive is found at m. 69 in the first violin. This is a rhythmically altered version of the motive, but the pitch content and general trajectory is the same. Section C introduces further development of the idea. The opening viola figure at m. 90 is the same idea, but inverted and presented as quintuple 16ths instead of triplet 16ths. Shortly after the opening of Section C in mm. 94-95 the violins and viola pass this motive among the three of them, each one exhibiting a slight deformation of the initial idea. The developments of this motive at m. 69, m. 90 and mm. 94-95 are shown below in Figure 16. This type of slight alteration to contour, pitch content and rhythmic values can be found in every section of *Echo Chamber* with the exception of the music that immediately follows the climax.

Figure 16 – Alteration of the 16th note motive found in mm. 69, 90 and 94-95

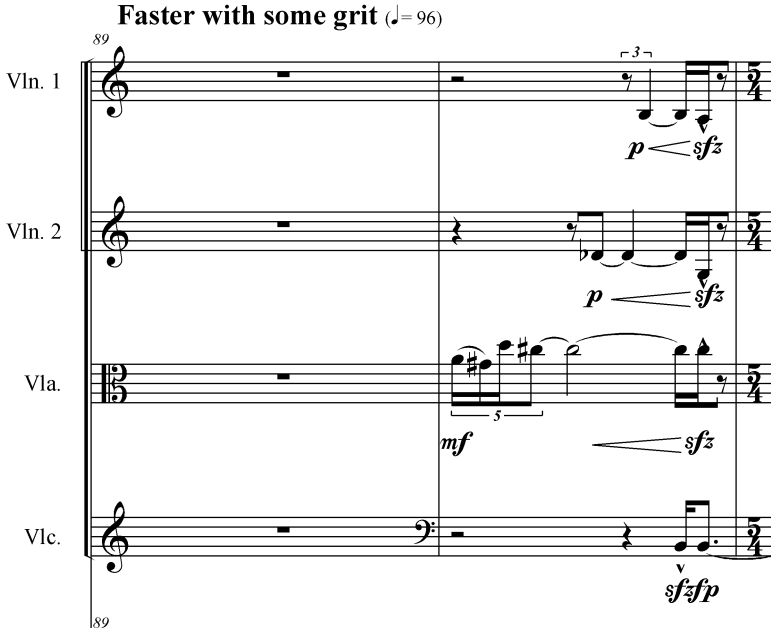


Appearance in violin 1 at m. 69

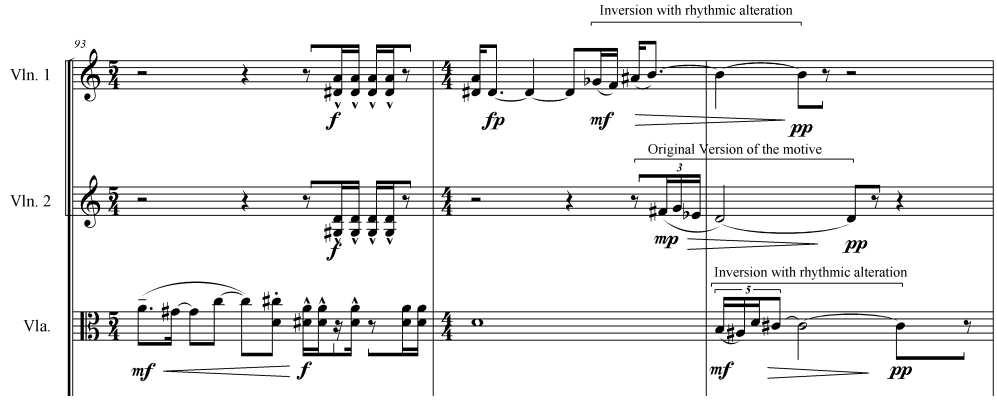
12 Brian Ferneyhough, "Il Tempo Della Figura," in *Brian Ferneyhough – Collected Writings*, ed. By James Boros and Richard Toop (The Netherlands: Harwoood Academic Publishers, 1995), 33-41.

13 Michael J. Schiano, *New Grove Encyclopedia of Music*, "Grundgestalt, Oxford: Oxford University Press, 2004.

(Figure 16, cont.)



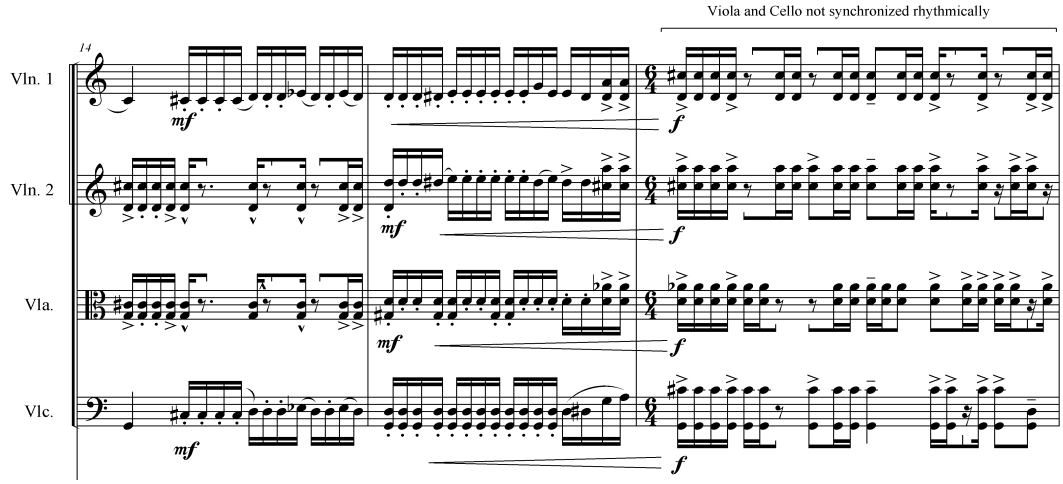
afasAppearance in viola at m. 90, inverted with alteration of rhythm and pitch content



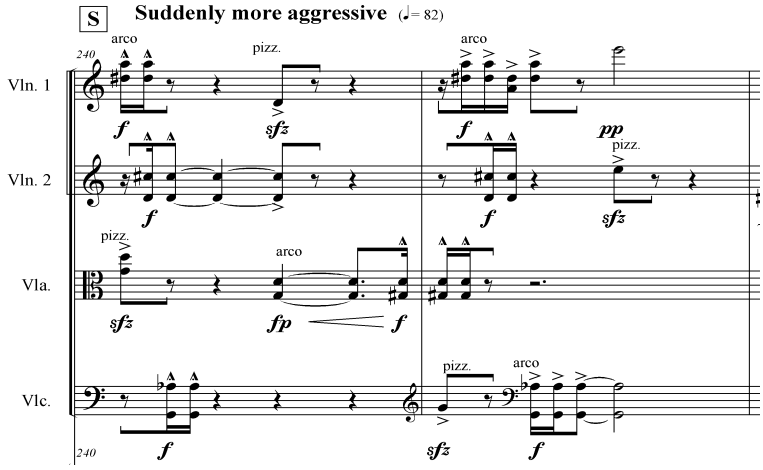
Melodic line passed from violin 1 to violin 2 and then to viola. The brackets
in the example show where the melodies take place and the developmental alterations made.

The development of other motivic ideas is fairly clear on the surface of the music. As the stabbing chords are reintroduced throughout the piece they take on the role of articulating the energy of the text at that particular moment. However, as the piece progresses, the stabs become less synchronized. This implication is introduced in Section A at m. 16 wherein the violins share the same rhythm, but the viola and cello are accenting on subdivisions of beats by themselves, creating a slightly more chaotic and disorganized version of the idea. This is fully realized in the opening of Section G at mm. 240-241. At this moment the four string players open with the stabbing gesture, but it is presented as four completely independent figures. There is no synchronization between the parts, and at m. 256 there is an echo back to m. 16, in which the stabbing chords are presented as a full bar of material as opposed to a short burst of energy, but the four players are playing completely independently, establishing an implication that the four players who were once a single unit are now related in character but disparate ideas due to their lack of rhythmic synchronization. Measures 17 and 240-241 are shown below in Figure 16.

Figure 17 - Rhythmic stabs at m. 16 and m. 240-241



Bracketed 6|4 measure is the first instance of the stabbing chords being broken
to be rhythmically out of sync. This idea is repeated until fully realized in mm. 239-240.



Appearance at m. 240-241, starting Section G

The sustained sound bed refers to a single sustained pitch or slowly undulating chord that is maintained by the string players passing the note(s) from one player to another. This is established in m. 19 as the players pass a single C4 throughout the ensemble, gradually adding semitone inflections. This approach to sustaining a single pitch or sonority can be found throughout

the work and is the primary means of creating elongation of moments of repose, such as at m. 30 when this is repeated with E4 at m. 140 (however, the strings are not passing the same note, but sustaining the energy by dovetailing entrances) and at m. 243 with Gb.

4.3 Electronics - Structure, Composition and Placement

The electronic sounds utilized in *Echo Chamber* consist primarily of sustained recordings of string processed with distortion, reverb and resonance filters to create a ringing and almost metallic timbre. These sounds are only found in the Introduction, the electronic Transition sections, and at the climax. This was an intentional decision, as it was important to keep the texture relatively clear and out of way of the recorded narration so that the text could be heard above everything else.

Additionally, the electronic sounds take on the role of an intermediary voice, as a sound world that encapsulates both the hate speech of the recorded hate speech and the emotional reactions of the narrators. It also interacts with the string players by being somewhat derived from the timbral world of the string quartet. By placing the electronic sounds mostly in sections without narration, and only against the string players, I hope to create a sense of two distinct sonic realms. The electronic Transitions become a response to the call of the narration.

Part of the electronic soundscape used in the Transitions includes granulated versions of the hate speech recordings. This involves taking a sound file, chopping it into very small pieces of sound, referred to as grains or "microsounds," and then putting them back together, either in relatively normal order, or as a completely jumbled mess of fragmented audio.[14] These granulations are first introduced in the transition leading to Section B concerning racism. The voices are heard clearly, but in the background of the speakers one can hear rumbling garbled echoes of the text. This is created through "buffer shuffling" the hate speech, so that short pieces of the audio file are repeated, transposed, elongated, shortened, repositioned within the stereo field, etc. This process

14 Curtis Roads, *The Computer Music Tutorial* (Cambridge: MIT Press, 1996), 168-175.

occurs at each of the electronic Transitions, with each recurrence introducing more of the processed granulation and less of the clear speech. The extra-musical representation created is the gradual removal of any meaning from the hate speech to the point that it is ignored almost entirely.

4.4 Use of Indeterminate Notation

There are four moments in *Echo Chamber* that utilize indeterminate notation, leaving the music to be somewhat improvised by the players. The first is the Introduction, wherein the performers play through a single measure of music repeatedly over the course of the 2.5 minute audio clip that plays during this section. The players begin by playing very slowly, out of sync with one another with very light under-pressure from their bowing hand and fingerboard hand. Each time the measure is repeated it should be played faster with more pressure on each hand, eventually reaching what is expected to a be a chaotic climactic moment just before Section A starts at m. 2. The electronic accompaniment in the Introduction culminates with a rapid crescendo and attack, upon which the players immediately move to m. 2, cued by the first violin.

The next instance of indeterminate notation follows Section A leading to Section B. The first violin plays a senza misura solo while the second violin, viola and cello freely choose pitches from a given collection and sustain a chord progression. As mentioned above in **4.1.d** there are three chords presented in this section by the second violin, viola and cello, all of which derive from the Z-11 heptachord. This section represents an expansion of the sustained sound bed motivic idea mentioned in **4.2** on motivic development.

Following Section C at m. 146 there is another moment of indeterminate quasi-improvisation that is similar to the transition leading to Section B. In this instance all four players are given a collection of pitches and are asked to improvise articulated attacks at their leisure, all under a gradual decrescendo. The overall effect is a texture of articulated pizzicato and col legno

attacks that gradually fade out accompanying the speaking voice of an audio clip of a preacher discussing the downfall of American Christianity. The voice of the preacher is also granulated in a way that adds to the percussive and articulate texture and also serves to represent a deconstruction of the voice.

The final and most elaborate use of indeterminate notation comes at the climax of the piece starting at m. 198. Each player is given a long running melodic phrase, unmetered and without bar lines for phrasing. Each player is to play through their melodic phrase, eventually arriving on a whole note at m. 203, upon which the players are asked to rearticulate the note randomly until the final explosion in the electronics. This particular approach to the technique of indeterminate notation was borrowed from Witold Lutoslawski's *Jeux Venetiens* in the opening movement. In Lutoslawski's work, each section of the ensemble is given a very long melodic phrase to play somewhat freely, repeating as necessary until the conductor cues the ensemble to move to the next section. This particular method of indeterminacy has always fascinated me, but I have also found it problematic in terms of implementation, because of the difficulty in cueing the members of the ensemble to move on. For this particular moment in *Echo Chamber*, the goal was to create a moment of absolute chaotic hysteria following everything that had been presented before. The clearest solution was to have the strings playing completely independently of one another while bringing back the hate speech sound mass from the Introduction. The issue of cueing the players when and how to stop is handled with the electronics. The peak of this moment is when an explosion is reached in the electronic sounds, at which point the strings cut off and the leftover residue of the electronics fills out the temporal space as the strings prepare for the post-climax music at m. 205.

4.5 Formal Analysis: Narrative and Syntax

In February of 2012 I began taking private composition lessons with composer and cellist Franklin Cox.[15] During those lessons he introduced me to his own narrative vs. syntax dichotomy of approaching formal planning. In this dichotomy, one focuses on the narrative as the overall musical drama and answers the question of why certain compositional choices are taken. It takes into account the implications of certain developmental procedures and is primarily concerned with hermeneutic analytical techniques, musical metaphor, and general energy trajectory.

The syntactical structure deals with the music on a more theoretical basis, dealing with pitches, rhythms, proportions, spectromorphology, register and motivic development.[16] Syntax deals with questions concerning *how* as opposed to *why*. In my personal approach to the narrative/syntax formal dichotomy, the syntax is typically in service of the narrative.

Sections **4.1-4.4** of this chapter dealt with the syntactical analysis of *Echo Chamber*, uncovering the various pitch, rhythmic, developmental and performative techniques that are employed in the piece. The narrative that is uncovered by this syntax is related to the title of the work - echo chamber. The use of pitch structures drawn from the 7-11 and 7-15 supersets represents an outgrowth of repetition of the same ideas. Through employing a limited amount of gestural material there is a single, and in some ways repetitive, gestural language throughout. The regularity of sectional divisions in terms of Section# → Transition → Section# → Transition creates a sense of past events being echoed, even if they are changed slightly when they return. There is literal repetition and echoing of ideas in select moments of the composition, as well as the use of digital delay effects on the instruments and pre-recorded electronic sounds, another example of literal echoing.

15 These discussions came in the form of composition lessons, with no specific scholarship related to Frank's method as it was taught to me. I have continued to develop my own approach to the narrative vs. syntax dichotomy, as outlined in this document.

16 Denis Smalley, "Spectromorphology," *Organized Sound*, vol. 2 no. 2 (August, 1997): 107-126

These techniques were employed in service of a narrative that creates and perpetuates a type of musical echo chamber. The Introduction presents the candid voices of hatred that demonstrate the result of a long-running real-world media echo chamber. This is cut off by the strings at the start of m. 2 and the entrance of the narration - the start of a dialog. The reappearance of the voices in the electronics during the transitions reiterates that the hate speech is not going anywhere, even if it does become more commonplace and easier to "ignore" as the piece continues.

With each new section of the narration the protagonists create moments of extreme tension and little release, culminating in the explosive climactic moment. The more serene and melancholy music and narration that follows offers a glimmer of hope that things have changed, however, the return to the more aggressive speaker from Section A suggests otherwise. As the piece comes to a close, the narration becomes more intense and angry, but with a more positive subtext to the words. The strings, however, land on a driving rhythmic 16th-note pattern, creating a turbulent underpinning to the hopeful message. All of this is accompanied by the slowly rising distorted string drone that emerges from the background, harkening to the Introduction of the entire piece - a sound that was once only associated with the hate speech. The piece comes to a grinding halt, with the speaker leaving one last thought - "won't that be something," referring to living in a world where people can discuss their issues together, but still see one another as human beings and not as enemies.

My interpretation of Grant's text is that he believes the feelings of hatred and superiority are in some ways a result of our inability to talk about these issues in a way that results in progress. Though the voices of the protagonists are delivering a message of wanting things to change and to simply be seen as real people, the nature of current political and social discourse leads these feelings to get caught up in their own echo chamber, with the only ones hearing the message being

those who already agree. The perpetual repetition results in perpetual aggression with only fleeting moments of resolution.

Admittedly, this is a very pessimistic view of the situation, but it is, unfortunately, our current reality. The music of *Echo Chamber* was intended to both enhance and reflect the emotional energy of the narration. The narration, ostensibly, creates the narrative, and the narrative created by the voice actors who participated on this project was overwhelmingly lacking a strong sense of hope.

Chapter 5 - Implementation of Electronics - Technical Details and Description

The electronic component of *Echo Chamber* is presented in a live performance setting using a custom software program I designed in Max/MSP. The software (referred to henceforth as the patch), handles all playback of pre-recorded sounds and takes in microphone input from each of the string players. Ideally, each member of the quartet would have a fixed microphone pick-up attached to his/her instrument which would transmit their signal into the Max patch. This allows for each player to be processed with live electronics individually. This is not used extensively in *Echo Chamber*, but is used for the indeterminate sections and transitions.

A key issue to consider for any piece with instruments and electronics is how the performer will interact with and/or synchronize with the electronic sounds. Because the majority of the electronics in *Echo Chamber* is the narration, it is unnecessary for the performers to play with 100% rhythmic and metric accuracy. The narration is played back as short audio clips. Throughout the piece there are moments with long stretches of narration under a single chord. For these moments the strings hold a fermata while the narration is played. The performers are given the entire text in their part, and will be able to proceed with the music at the end of the audio clip. Transitions are also played freely, so the performers again do not have to worry about synchronizing with a fixed electronics track.

A performance of *Echo Chamber* requires a string quartet and an additional person to advance the Max patch. This person could be an audio engineer or, more generally, anyone who can read music and follow along with the score as it is performed. At select moments in the score (denoted by a large number inside of a circle), the patch advancer presses the spacebar of the computer. This action primarily triggers audio files to play, but it also used to activate effects during the improvised transitions. As the quartet plays, the patch advancer triggers the audio files for all

narration and electronic sounds, allowing for the quartet to focus only on performing together as a unit and listening to the narration for timing purposes.

While there is little use of live processing, the implementation of the Max software is a necessary step. This work cannot be performed from a compact disc or only playback of fixed audio files. The transitions, indeterminate sections, and live processing all require some kind of live input coming from the players for real-time signal processing. My solution to this issue was to create a custom piece of software for *Echo Chamber* using Max/MSP.

Chapter 6 - Conclusions

Echo Chamber marks the culmination of my work as a student composer on a few levels. It represents the aspects of composition I find most fascinating, including working with instruments and electronics as well as text-sound composition. It is also my first string quartet, a genre that I felt needed to be represented in my portfolio. Finally, it is an homage to Lee Hyla and *Howl*, which, more than any other work, has held a lasting influence on me for the last seven years.

As far as compositional lessons that I learned from this process, I have found that I have refined my own understanding and approach to the narrative and syntax dichotomy without needing to sit down and flesh it out in annotated detail. The process, at least with *Echo Chamber*, has become more fluid and natural. In writing this piece I found myself doing significantly less pre-planning, and that as long as I had my pitch system worked out I was able to intuitively generate a lot of material that I felt served the text and the narrative equally.

In terms of my approach to systematizing my music, I feel that *Echo Chamber* demonstrates a refined version of my process which represents an intersection of pre-determined materials that leaves me room for artistic and improvisatory decision-making. Historically I have either adhered strictly to a system or tried to avoid any rigorous system entirely and freely transpose PC sets. Just before starting *Echo Chamber* I revisited some earlier pieces with sieves and decided to begin experimenting with them again. That process led me to develop my approach to overlapping MOD10 PC sets employed in this piece, as well as the overlapping 7-11/7-15 at T4 collection.[17] I imagine this particular approach to developing filtered register systems and overlapping PC set collections will become more common in my future works. It directed my compositional choices in that I thought less about note-to-note pitch relationships and more about

17 Similar approaches were used in my previous works *Dissociation Sequences (C23H28O8)* for cello and live electronics, and in *Kerplünkte* for piano and live electronics.

gestural and dramatic shaping. The pitches were taken care of, and I knew they would be related because of the use of sieves and/or overlapping PC collection.

But, most importantly, what I have taken away from this project is insight into the care that needs to be taken when creating a piece of politically and/or socially inspired art. This project started from a place of wanting to personally feel somewhat better about the results of the 2016 election and the behavior I observed leading to that eruptive climax. After reflecting on my vision and goals for this project, it became clear that the piece I started was not really solely my project, but one that belongs to everyone involved – to Eric, to all of the narrators, and to everyone from whom I gathered and re-purposed hate speech. It was not my own feelings or my emotions that were being put on display, and my only connection is the tangential feelings of sympathy I feel toward my friends, colleagues and strangers. I simply wanted to use my place of white privilege as a soon-to-be doctor to help shine a light on this topic, an offering of solidarity. And while it is heavy handed in terms of aggression and power, it is ultimately a representation of something real. To curb the energy or soften the edge of the final product would be a disservice to those who helped me bring *Echo Chamber* to life, with the raw emotion they provided in their recordings, and the vulnerability they showed in being part of this project. *Echo Chamber* was truly a collaborative effort that would not have been possible without the help of Eric Grant, Quetta Carpenter, Joshua Shank, Matt Frazier, José Martinez, Akshaya Tucker and Katya Shevchenko. Never before have I been so proud of a piece, and yet felt so little ownership of it. Simultaneously, I don't feel there was an alternative approach that would have yielded results as favorable.

Echo Chamber: Full Text

Text by Eric Grant

I know you see me. I am the black man getting shot, the gay woman getting arrested for kissing my wife. I am the Muslim afraid of my hijab, and duty and devotion to pray. I've lost my job and am trying to feed my kids. I'm on welfare, on food stamps, ashamed that I have to live that way. I go to public school, I go to the church, or temple, or a mosque, because I believe everyone should worship the God they need to. I'm the recovering alcoholic, the closet addict. I'm the fag you scream about, the immigrant you despise and yet need. I'm the woman getting harassed or raped; the woman with a body apparently in need of legislation. And honestly, I've got to get me some sleep sometime. Maybe fall into oblivion for a while. But like watching the wreckage strewn along the freeway, I can't help but stare at the carnage and wish I could see more. This is how our brain works, isn't it? Our synapses are wired towards tragedy, and violence is easier to process than peace. It flows through our veins like wrecking balls hurling towards something, only to be pumped out again unchanged.

But we have no ears to hear what rushes through our veins, no machine with lights and graphs to map the hysterical synapses that spider through our brains in clouds of woven thoughts and prayers, and that's when I wonder what it's like to hear the firing synapses of hate. Because you hate me, and I hate you, and we fear each other, and misunderstand each other, and, like Romeo and Juliet, we come to each other secretly at night to die, but really, what's it matter when the atoms collide, and send mushroom clouds of pink ribbons, white hoods, and a Koran as though any of that shit really matters in the long run. That the sheer number of words you fear exceeds the synonyms of your race.

I'd like to write you a poem about race, but you don't have the right ears to hear the synonyms. I wish black rhymed with the other words of my complexion, because I'm tired of being black, meaning, I'm tired of it needing to matter. That I have to be representative of my race. That I have to be the anti-nigger to avoid the label, which I think means act more white. I'd write a poem asking you to please find the synonyms of my color; find the references. Hate me if you must, but hate the caramel, the light brown sand just underneath the burned white after a full summer sun. Hate the obsidian, chiseled and elemental, hate the pale red, the red that falls off the last leaf in autumn. Hate me, but hate the synonyms of food: mocha, chocolate, cinnamon, coffee. Hate the Nubian and the Caucasian man who loved him. Hate a child whose skin brindles in the speckled rainbows of the earth. Hate the hardware store that can't sell you a bucket of white, because white doesn't exist. Hate that they can only sell you Cameo White, or White Lie, or Etched Glass, or Colosseum Marble. I admit, I don't see you in the shades you ask to be seen in, but want you to see me as Sorcerer's Eggshell or Cracked Pepper, or Warm Onyx. But I guess, since I have to guess, that since I can't find that nigger shade, and I can't find that white-trash shade, that maybe my synonyms will have to suffice. Because it's like Saul Williams says, "Now is the essence of my domain, because I am what I was and will be, I am and always will be that nigger / I am that nigger / I am that nigger / I am a negro / Negro from necro meaning death / I overcame it / So they named me after it." I am tired of writing poems about race, though.

Tell you what, I'll write you a faggot poem if you'd like. I'll write you the sounds of the woman breathing next to her girlfriend, ragged and restless, with the click clack click clack of her teeth as she dreams of the woman who loves her. Yes, I'll write you a faggot poem. One that bristles up when the morning stubble brushes over his husband's cheek reminding him of why he hates cats and their pathetic excuse for animal tongues. I'd like you to hear the synonyms, not of

love, that poem has already been written, and not because we love each other, but because I don't love you enough to let real synonyms of what togetherness means go to waste. No, I'd like to write you a *faggot* poem, a poem about men holding hands, or buying groceries together, or behaving the way you desperately fear, like having gay orgies in the locker room at the YMCA. That's what you expect, right? Because for you it's not about the normality of paying rent or coming home to a nice meal, or the conversations about life insurance, is it? It's about sex. Always about sex. I think you think about it more than I do.

I'd like you to hear my faggot song, and maybe give you a line you can't get out of your head, because if you're going to hate my catchy faggot song, maybe there'll be a beat you can't unhear, or maybe the bass drops and you forget that I didn't actually write you a faggot song at all but a love song, or, at least, a song for my lover, someone you know, the same kind lover you have, which is why it makes sense, right? Because as those harmonies collide you remember that my faggot poem is really just a poem about people being people, in all their tone-deaf, awkward fumblings finding places for themselves in someone else's song. But, through all of that, somehow, you will still find a way to my poem and me.

Ok, then, perhaps you need to hear my poem about God. Maybe religion is why you hate me, and why I pity the God you so gleefully woo, as though somebody else's God stole your job, closed the mill, repossessed your truck and now only your God can save you. And maybe you will be happy when the next holy war begins, but you don't have the stomach to die for your God like I do, even though you do own the guns. I am the amalgam aren't I? I wear the burka, the hijab, the turban, the yarmulke. I cover my head out of respect for my God. What do you do? Wave the bible and bitch about the 2nd amendment? But this one hurts: "Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of

speech, or of the press…" And this just burns your ass, doesn't it, unless you need it for your agenda. Oh, yes, I've read your agenda, and have issues of my own.

I've also read your words. That my body should be in the public domain. I think you hate my body—my breasts and vagina offend you, send you running, unless you need to clear your browser history. You hate that I like it as much as you, don't you? My womb, like the dark, black earth that nourishes and feeds all life creating the oxygen we breathe, builds you cell by cell with nothing but blood and milk. And that womb is mine. Why do you hate that I have these gifts? Which gifts were given to you? The strength to control the world, to mold and shape the earth, to bend metal and math? Think of what we could accomplish together, to create worlds from my body, and fashion them together.

I want to hate you. To burn your hate to the ground until all that's left is a black pile of ash that once was your superiority. And I do hate you. I hate that you make me afraid, hate that you make me hate. Hate that you stole me, that you blame me, that you keep me in the kitchen fetching beer after beer until dinner has to be ready. I hate your language, the rough Germanic sounds that feel so awkward in my mouth. I want to speak my Spanish, and Farsi and have that be OK, and maybe you find the beauty of my language in your mouth.

But I bathe in the warming of the sun, shaking dust from the skin you fear and pour ladles of patience through my hair. I am that negro, that spic, that fag, that cunt, that dyke; the synonyms of hate, but still I pour cups and liters and gallons and rivers and oceans of patience through my hair waiting for my time, my time when you find the way to talk to me about me, and I can talk to you about you, and we can talk about us. Won't that be something?

Dedicated to the memory of Lee Hyla

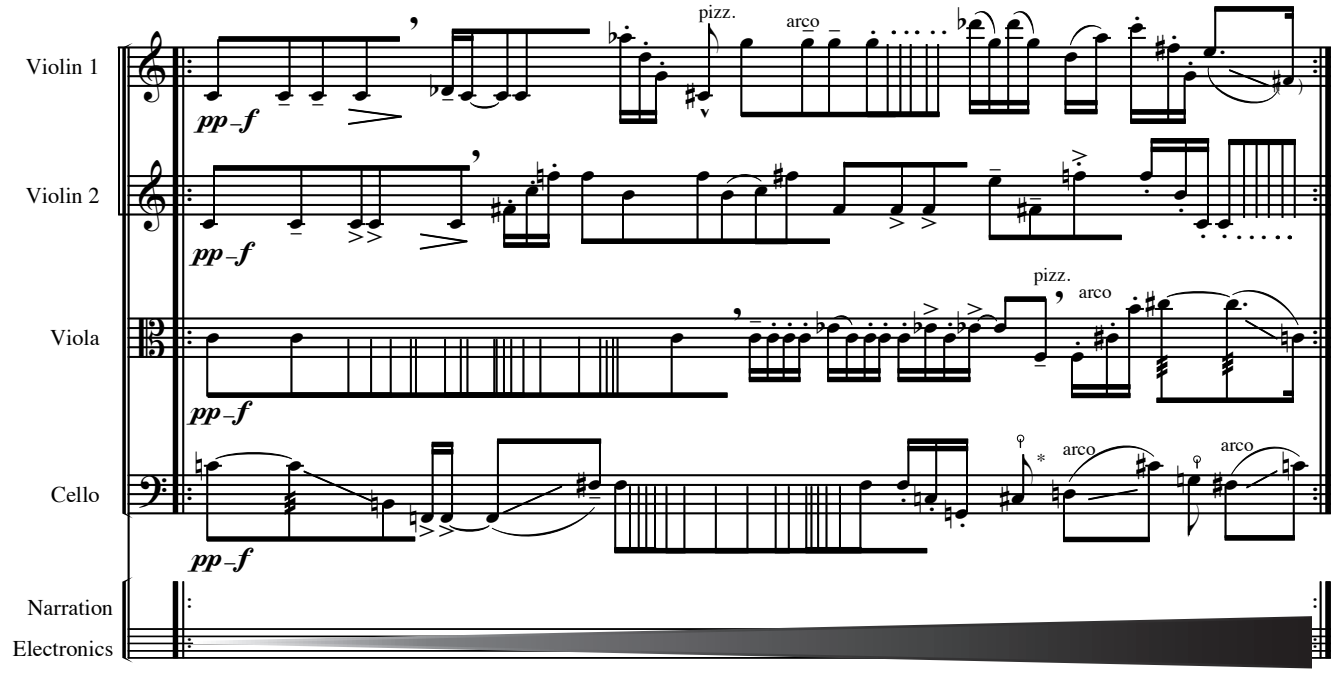
Score

Echo Chamber

Jon Fielder (b. 1986)

For String Quartet and Electronics

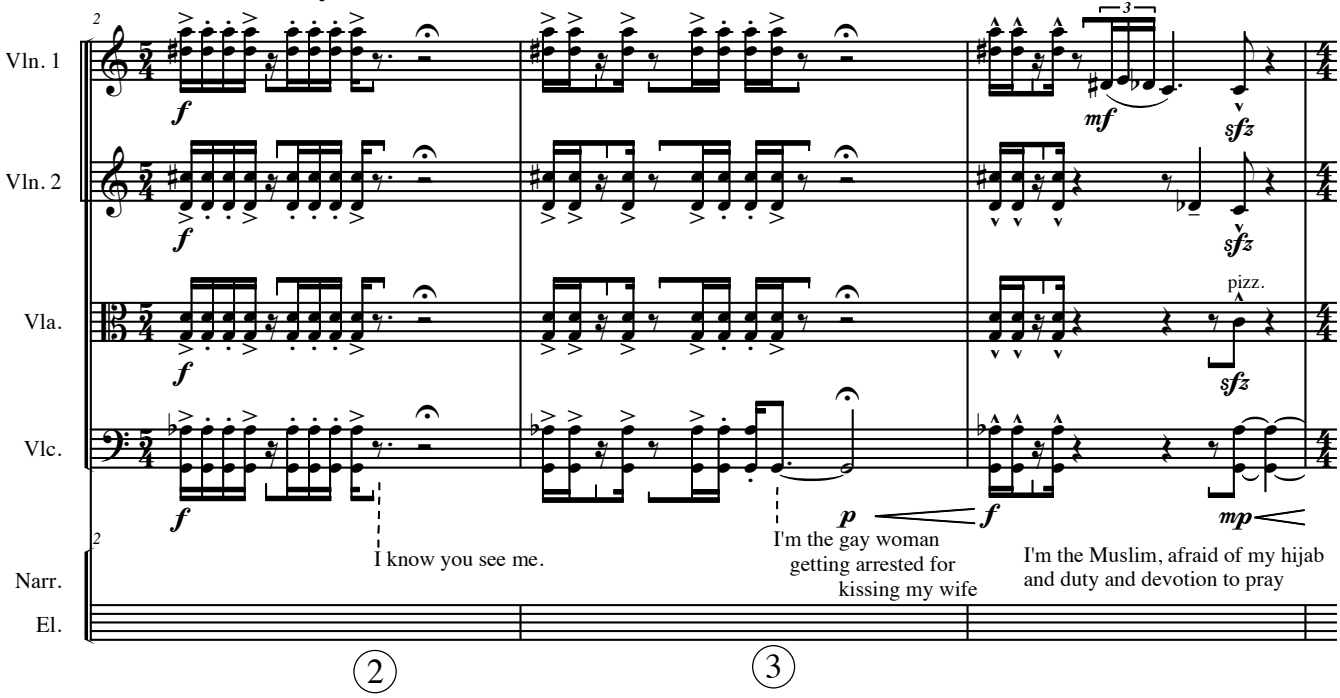
Introduction (2 minutes): Players should not align parts. Play freely, beginning at a Grave tempo at *pp* with extreme underpressure. Repeat ad libitum while electronics build. On each repeat, play slightly faster with more bow pressure and increasing in volume. All should be playing c. 120 BPM at *f* with full full bow pressure. Listen for swell and attack in electronics at 2:00. Violin 1 cues downbeat of m. 2 immediately following attack in electronics.



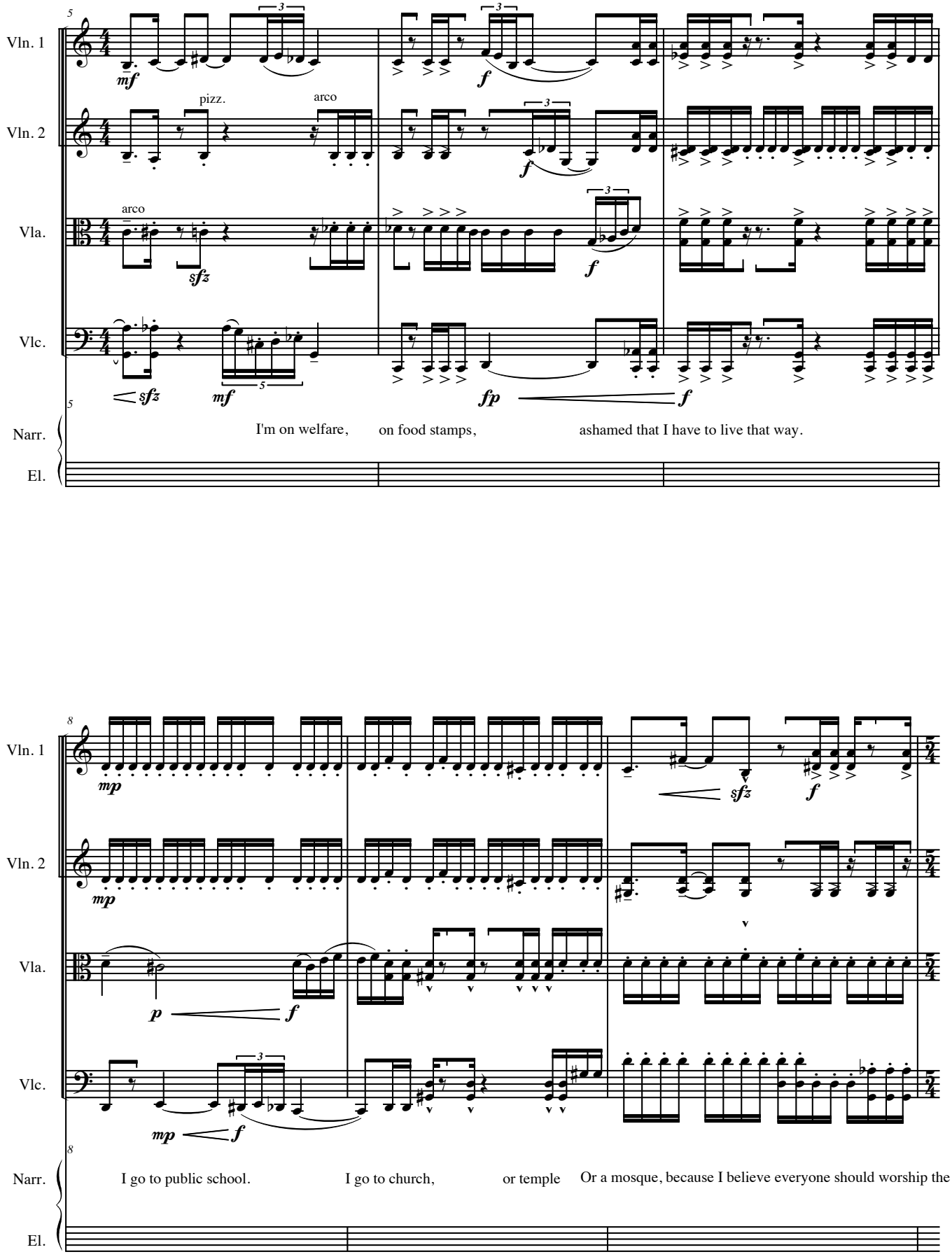
* = Bartok pizz should be reserved for when all materials are played at full volume; regular pizz may be played on first *pp* passes but should be subtle and fit into the overall texture, increasing in volume/intensity over time

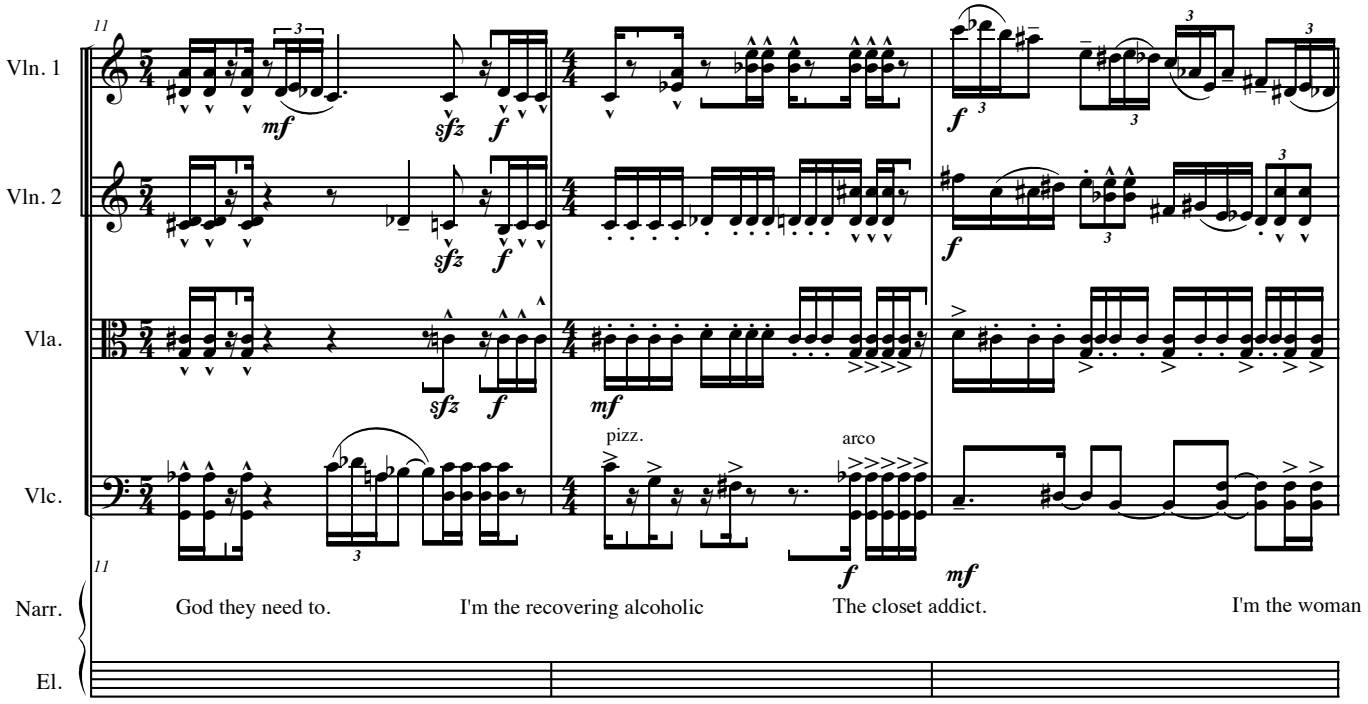
1

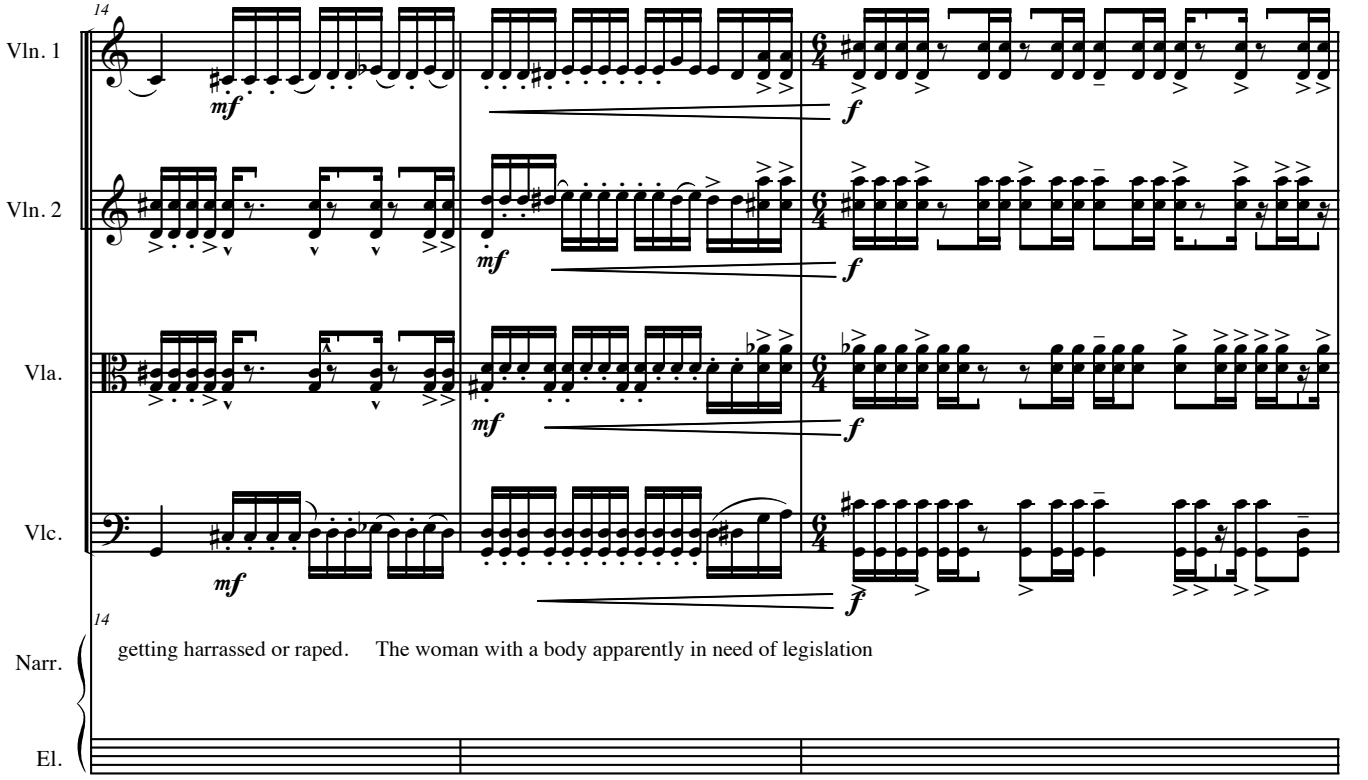
A **With Intensity** (♩ = 92)

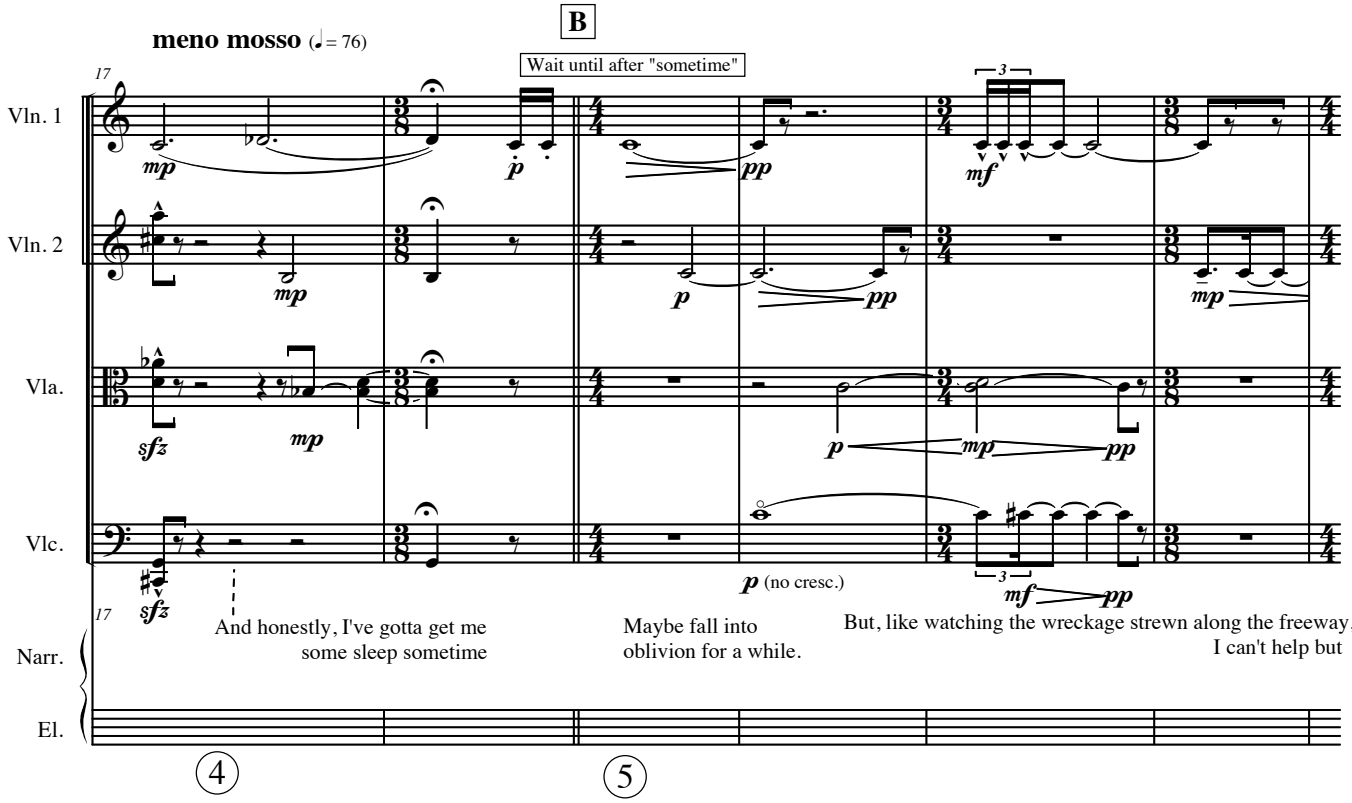


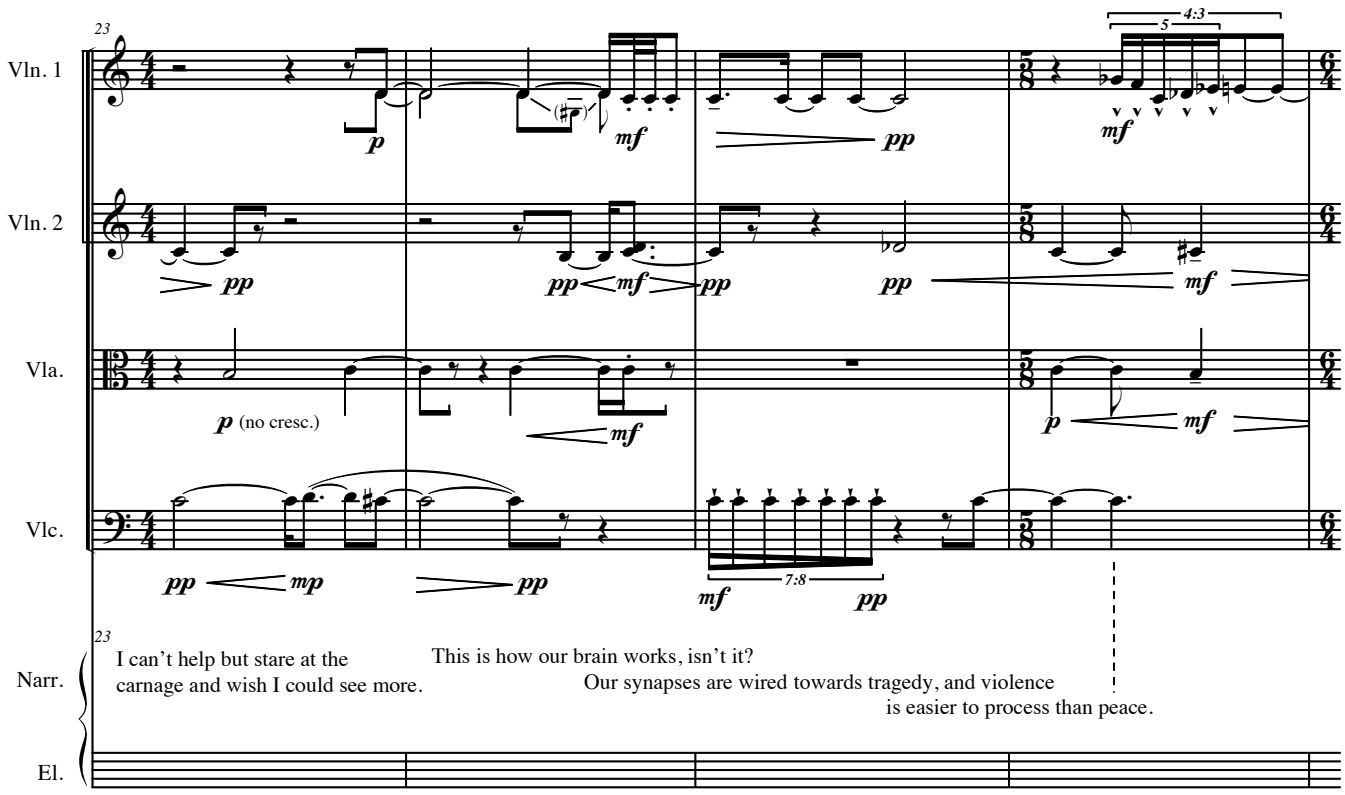
2 3

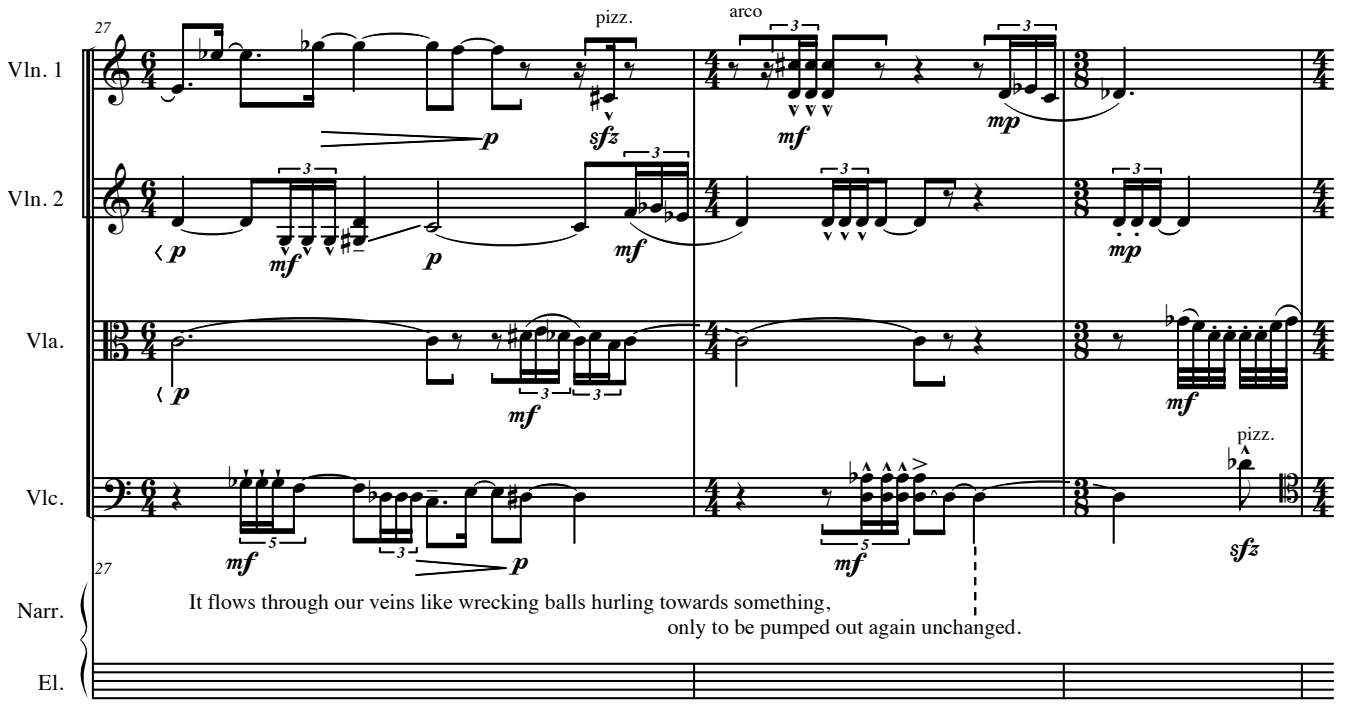

5
Vln. 1
Vln. 2
Vla.
Vlc.
Narr.
El.
pizz.
arco
arco
I'm on welfare, on food stamps, ashamed that I have to live that way.
8
I go to public school. I go to church, or temple Or a mosque, because I believe everyone should worship the

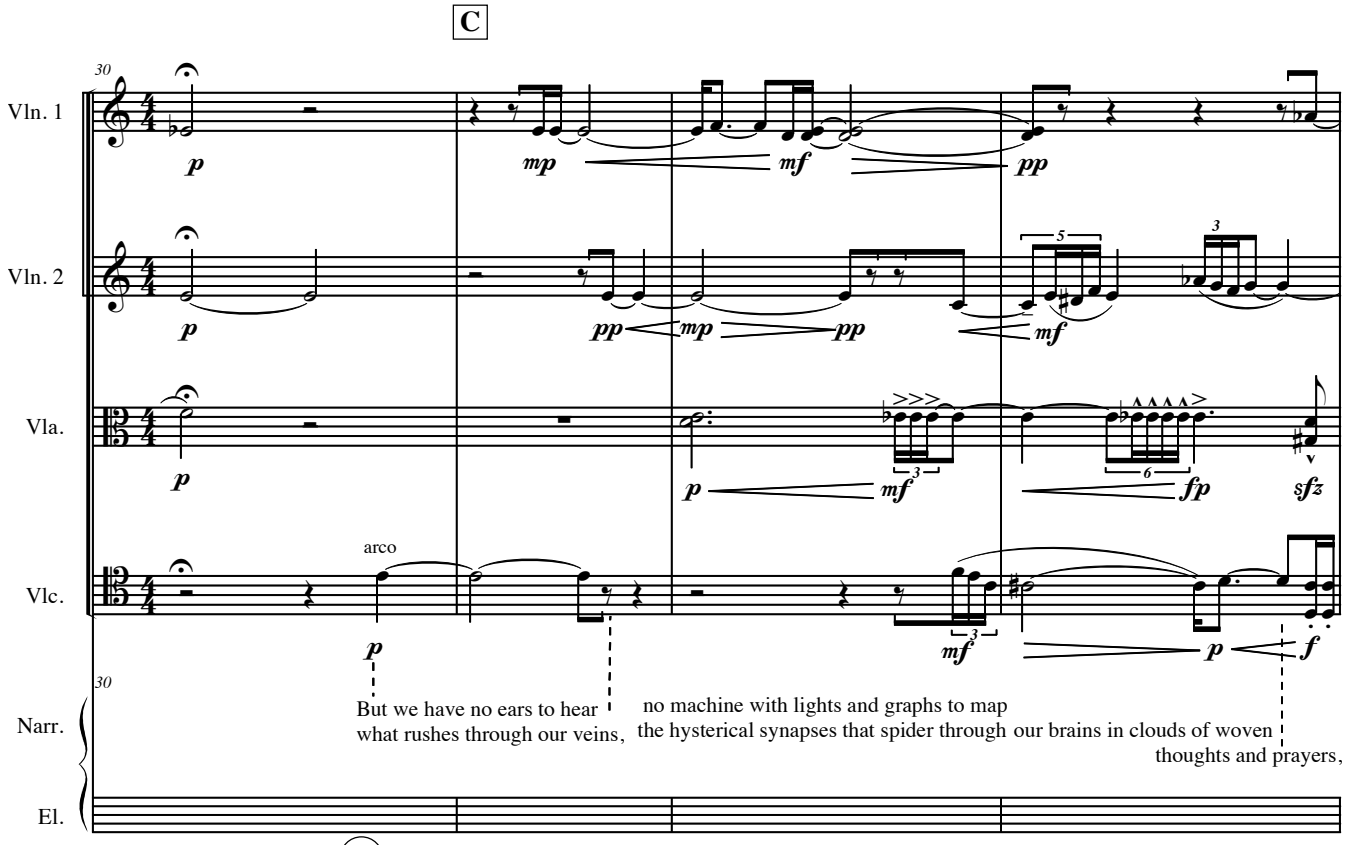

11
Vln. 1
Vln. 2
Vla.
Vlc.
pizz.
arco
Narr.
El.
God they need to.
I'm the recovering alcoholic
The closet addict.
I'm the woman

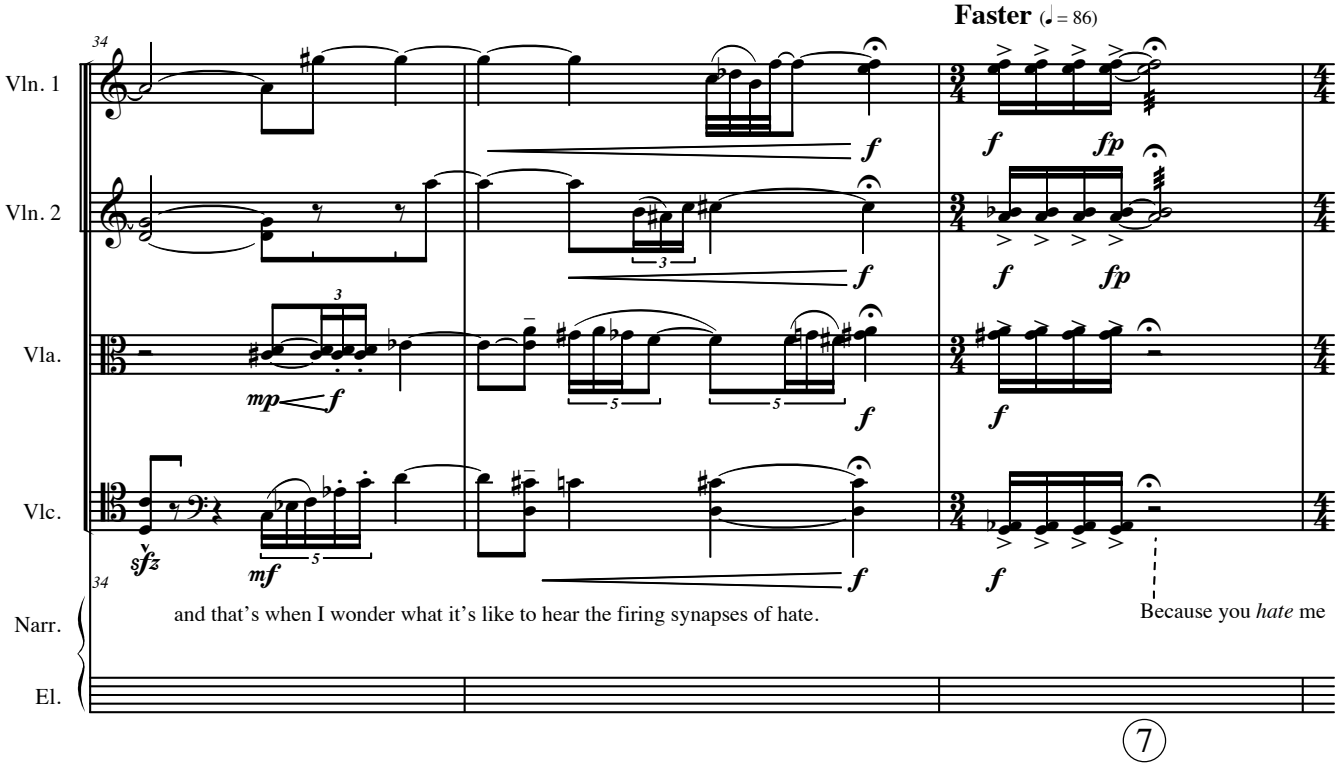

14
Vln. 1
Vln. 2
Vla.
Vlc.
Narr.
El.
getting harrassed or raped.
The woman with a body apparently in need of legislation

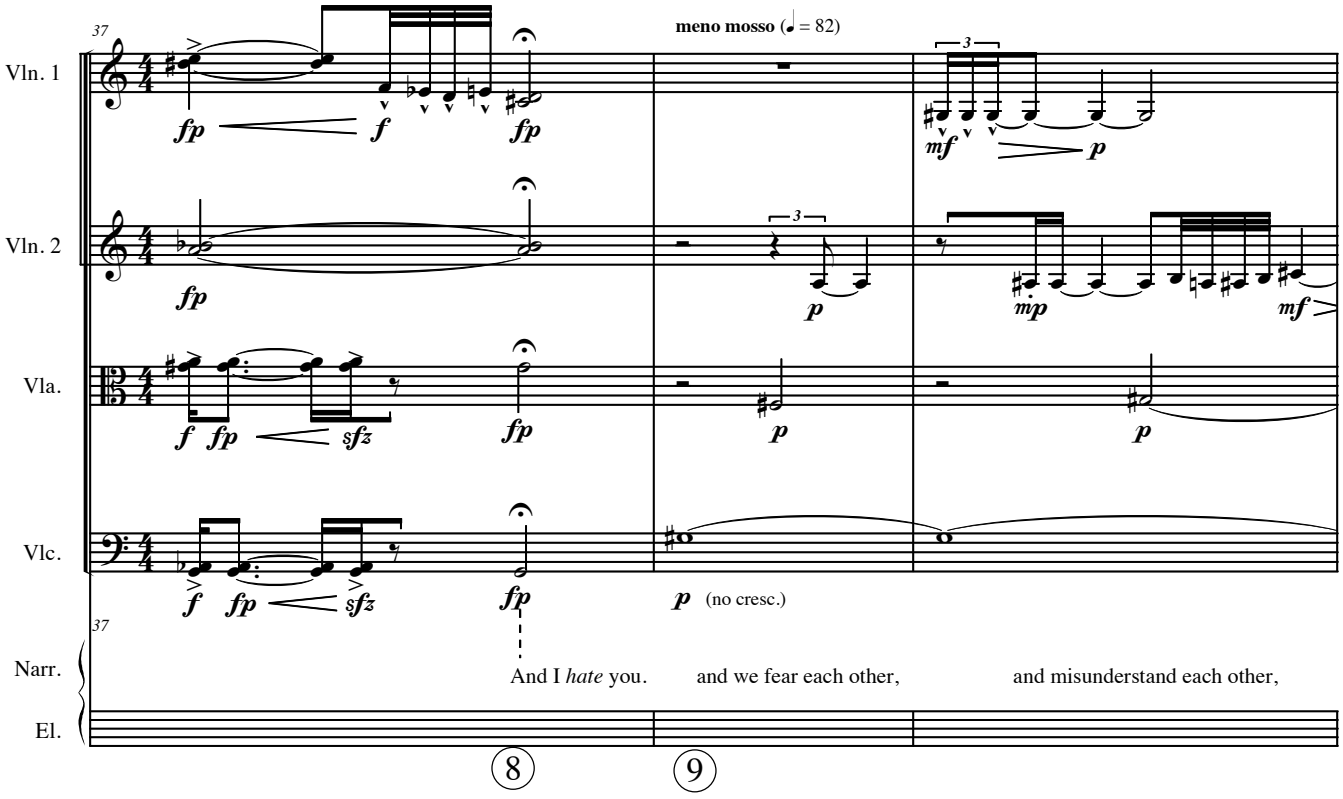

B
meno mosso (♩= 76)
Wait until after "sometime"
17
Vln. 1
Vln. 2
Vla.
Vlc.
Narr.
El.
And honestly, I've gotta get me some sleep sometime
Maybe fall into oblivion for a while.
But, like watching the wreckage strewn along the freeway, I can't help but
(no cresc.)
4
5

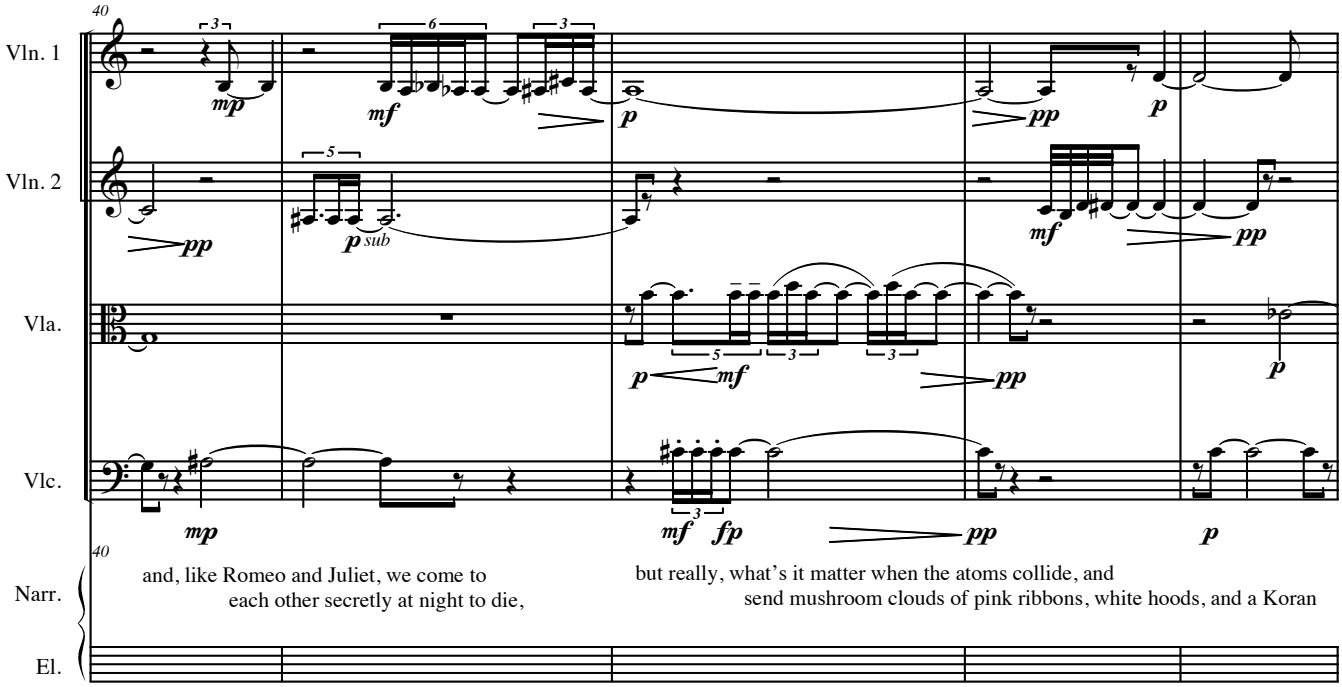

23
Vln. 1
Vln. 2
Vla.
Vlc.
Narr.
El.
(no cresc.)
I can't help but stare at the carnage and wish I could see more.
This is how our brain works, isn't it?
Our synapses are wired towards tragedy, and violence is easier to process than peace.

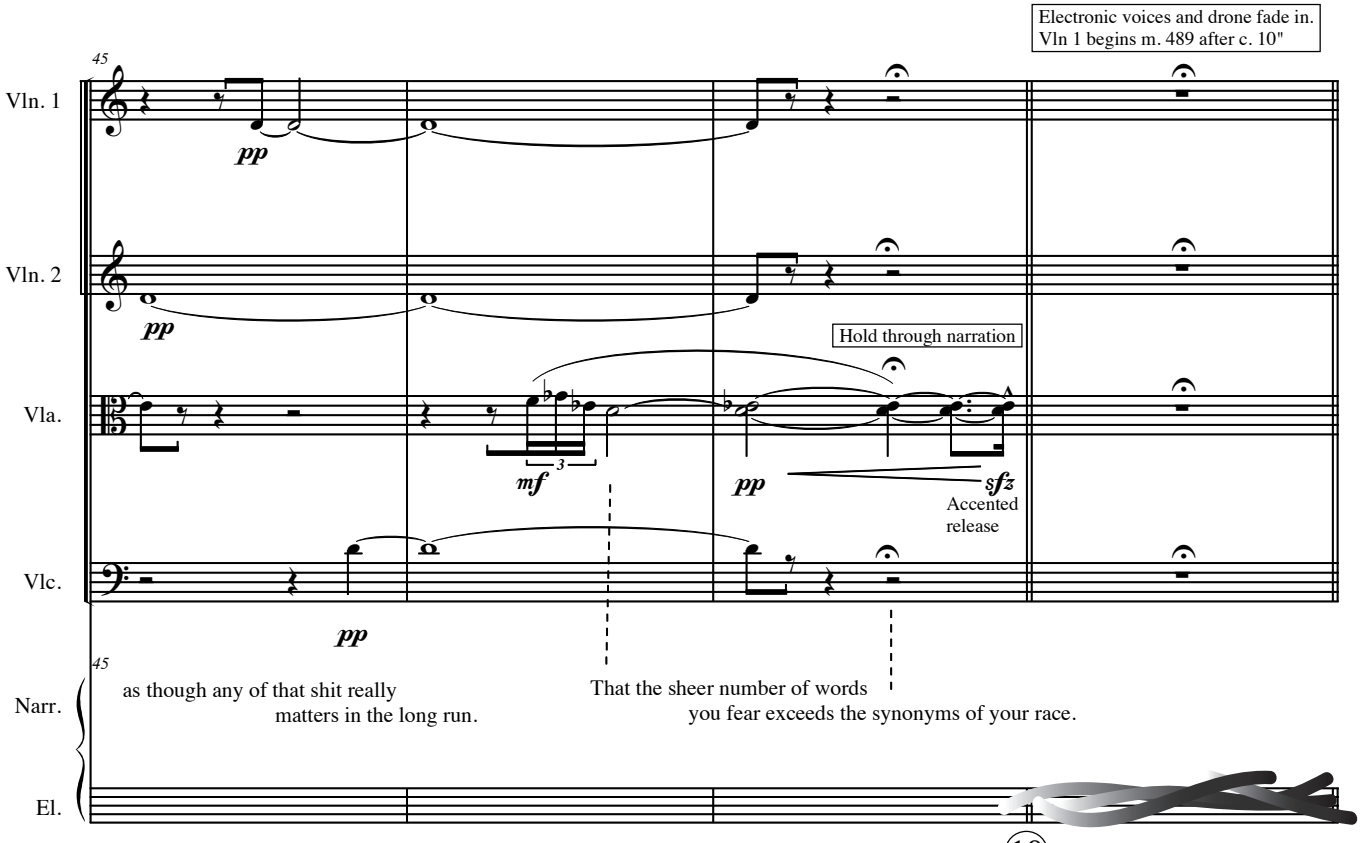

27
Vln. 1
Vln. 2
Vla.
Vlc.
Narr.
El.
pizz.
arco
pizz.
It flows through our veins like wrecking balls hurling towards something,
only to be pumped out again unchanged.

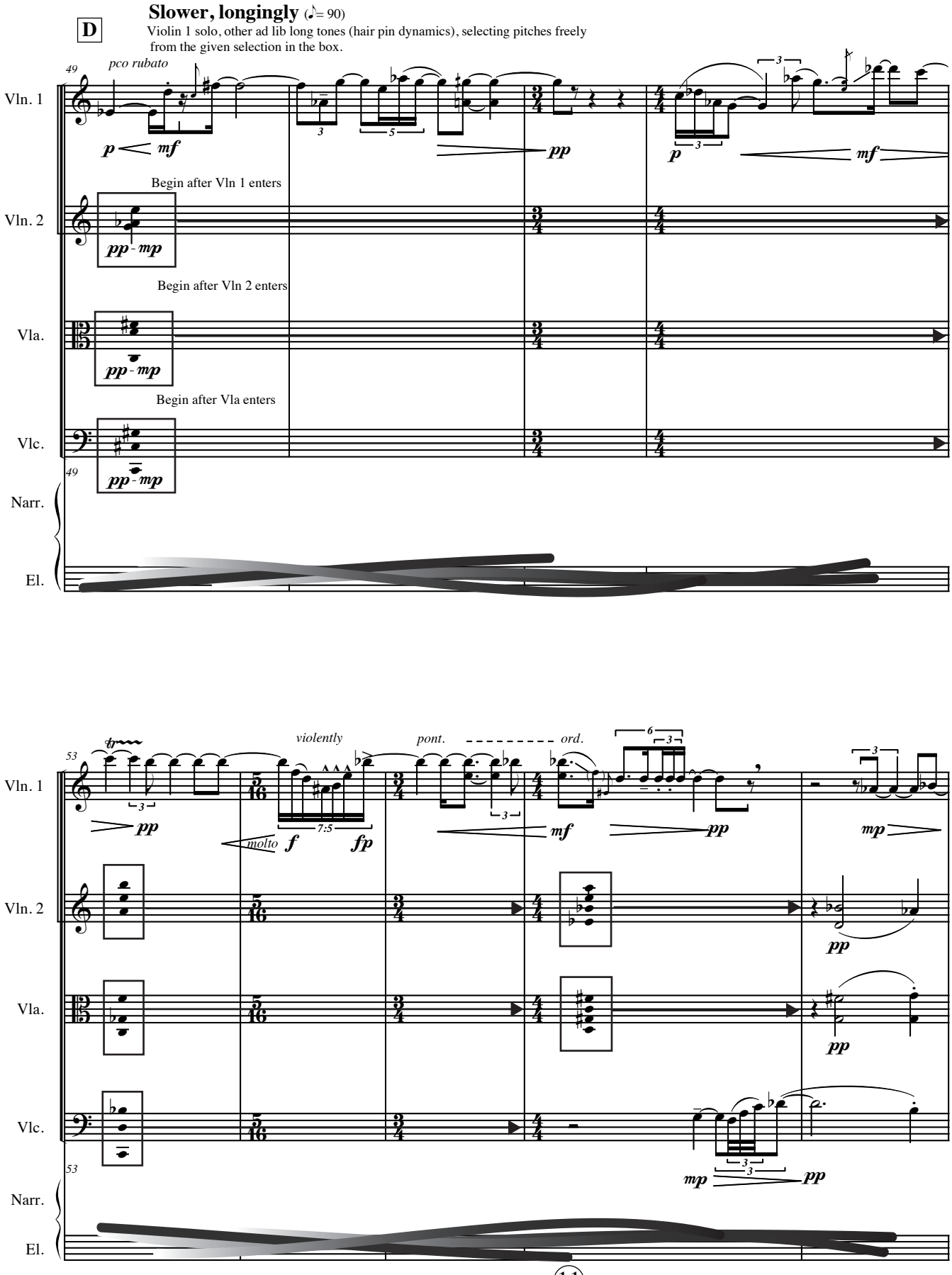

C
30
Vln. 1
Vln. 2
Vla.
Vlc.
Narr.
El.
arco
But we have no ears to hear
what rushes through our veins,
no machine with lights and graphs to map
the hysterical synapses that spider through our brains in clouds of woven
thoughts and prayers,

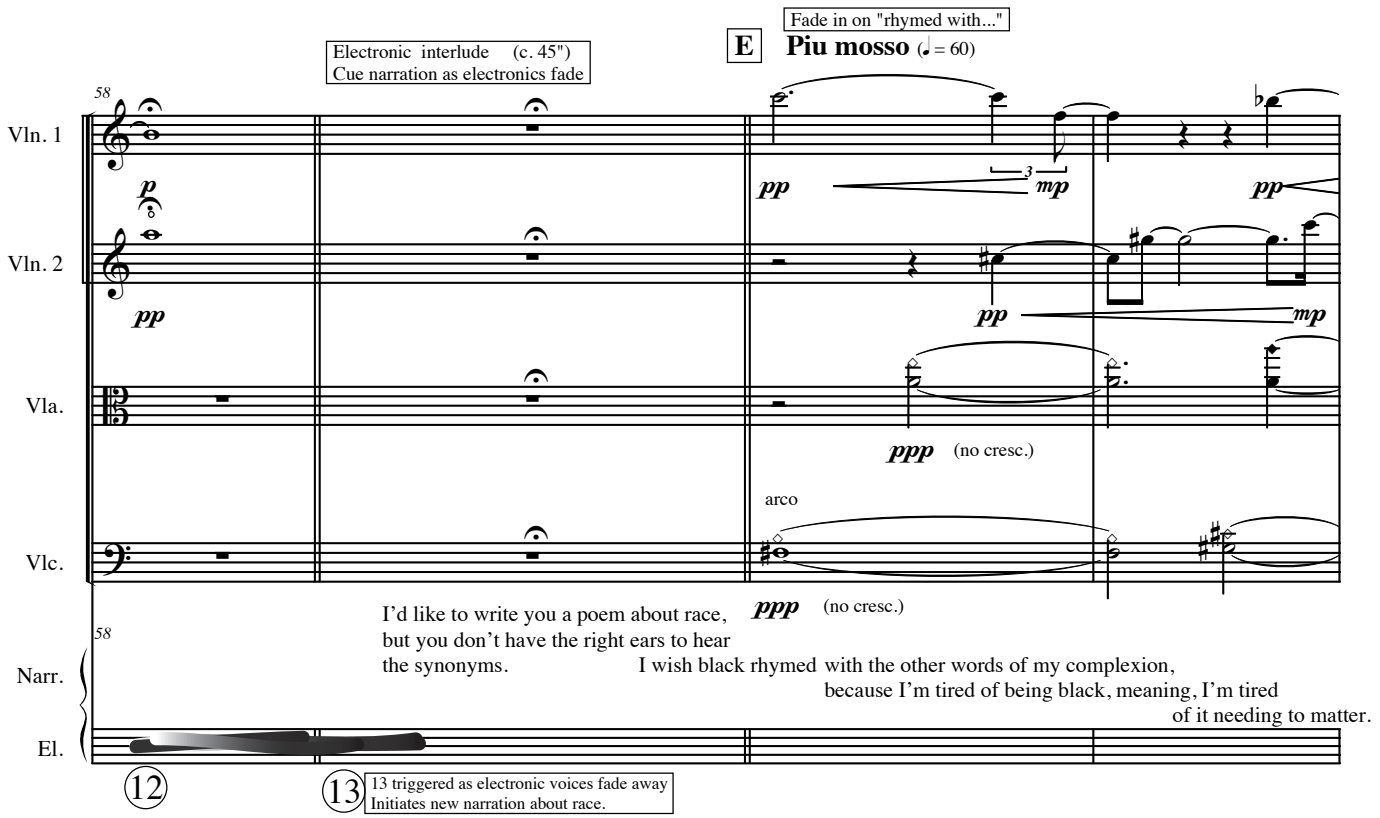

Faster (♩= 86)
34
Vln. 1
Vln. 2
Vla.
Vlc.
Narr.
El.
and that's when I wonder what it's like to hear the firing synapses of hate.
Because you *hate* me
7

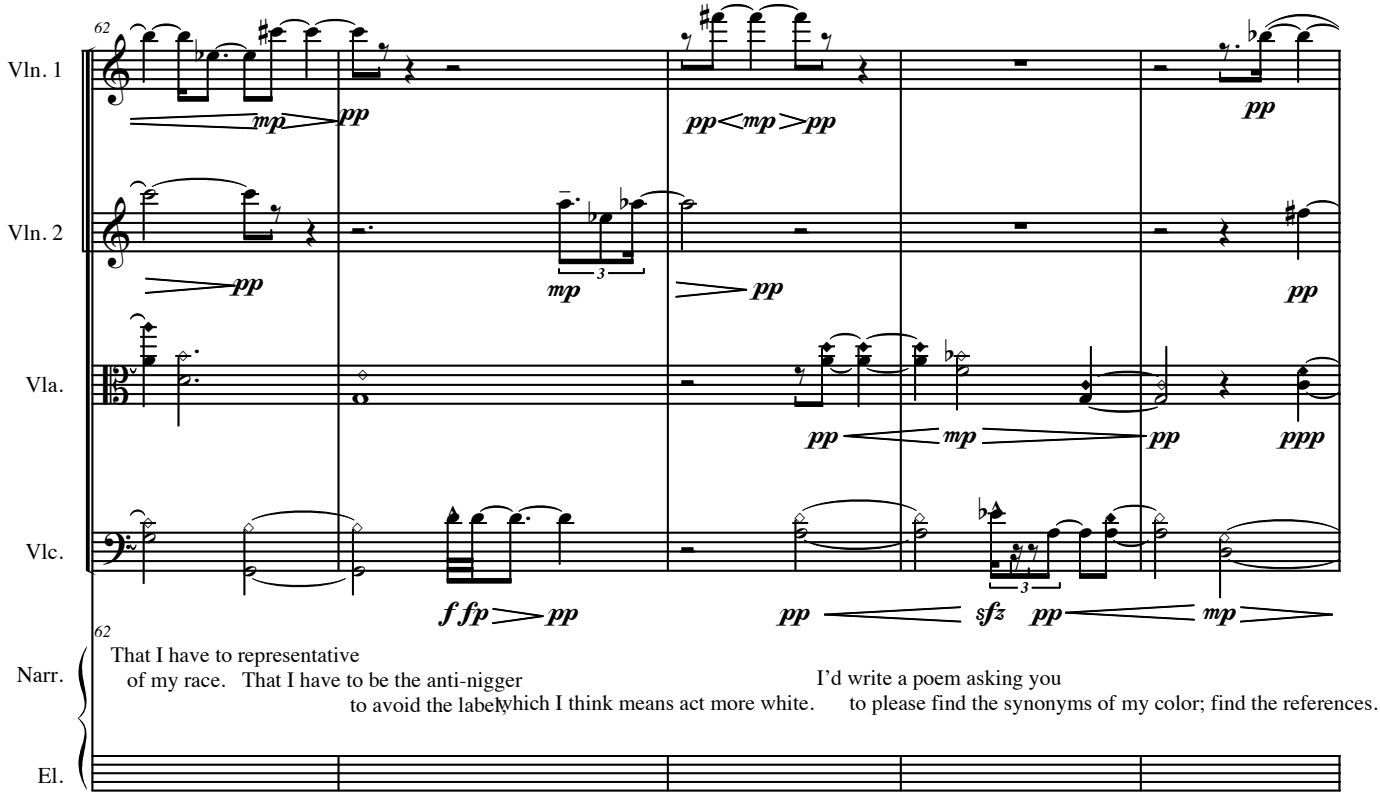

37
meno mosso (♩= 82)
Vln. 1
Vln. 2
Vla.
Vlc.
Narr.
El.
And I *hate* you.
and we fear each other,
and misunderstand each other,
8
9

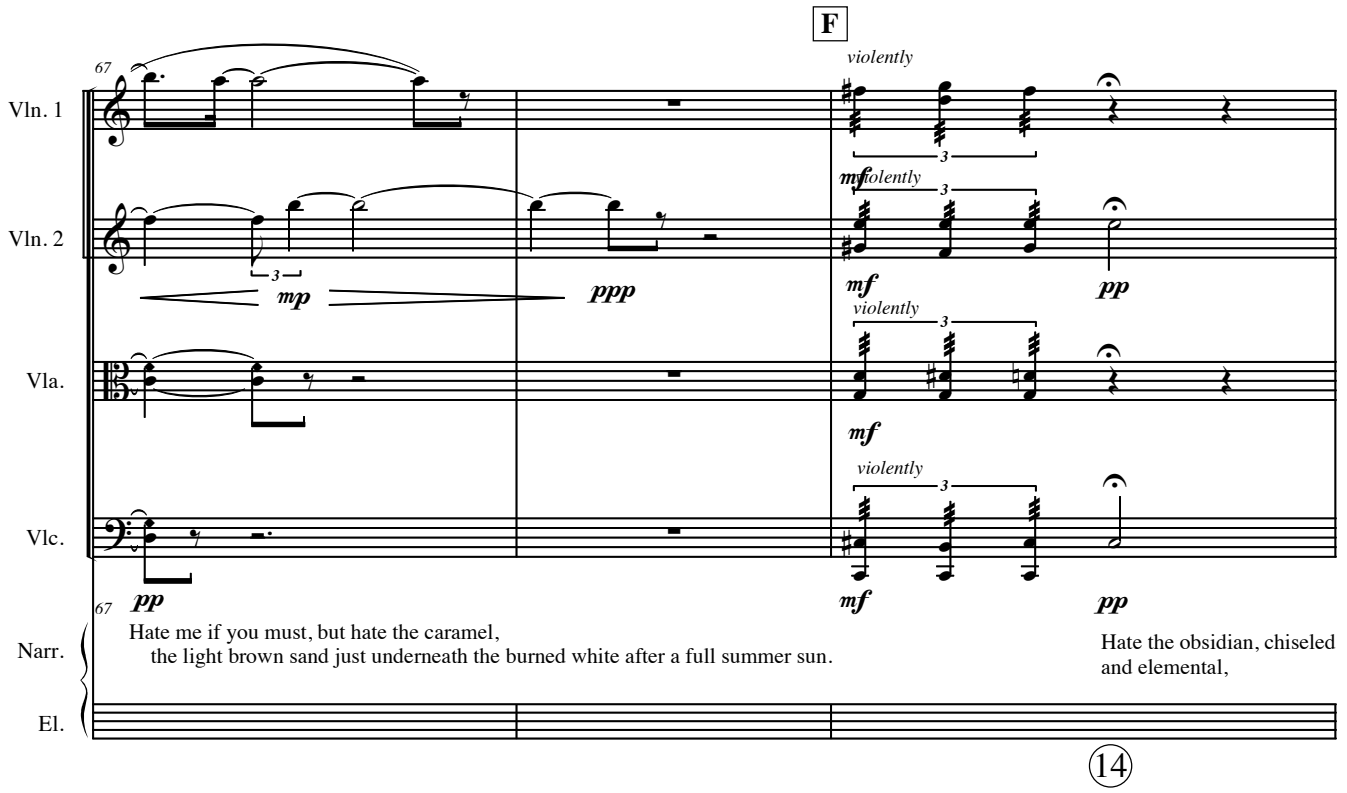

40
Vln. 1
Vln. 2
Vla.
Vlc.
Narr.
El.
mp
mf
p
pp
p sub
mf fp
and, like Romeo and Juliet, we come to each other secretly at night to die,
but really, what's it matter when the atoms collide, and send mushroom clouds of pink ribbons, white hoods, and a Koran

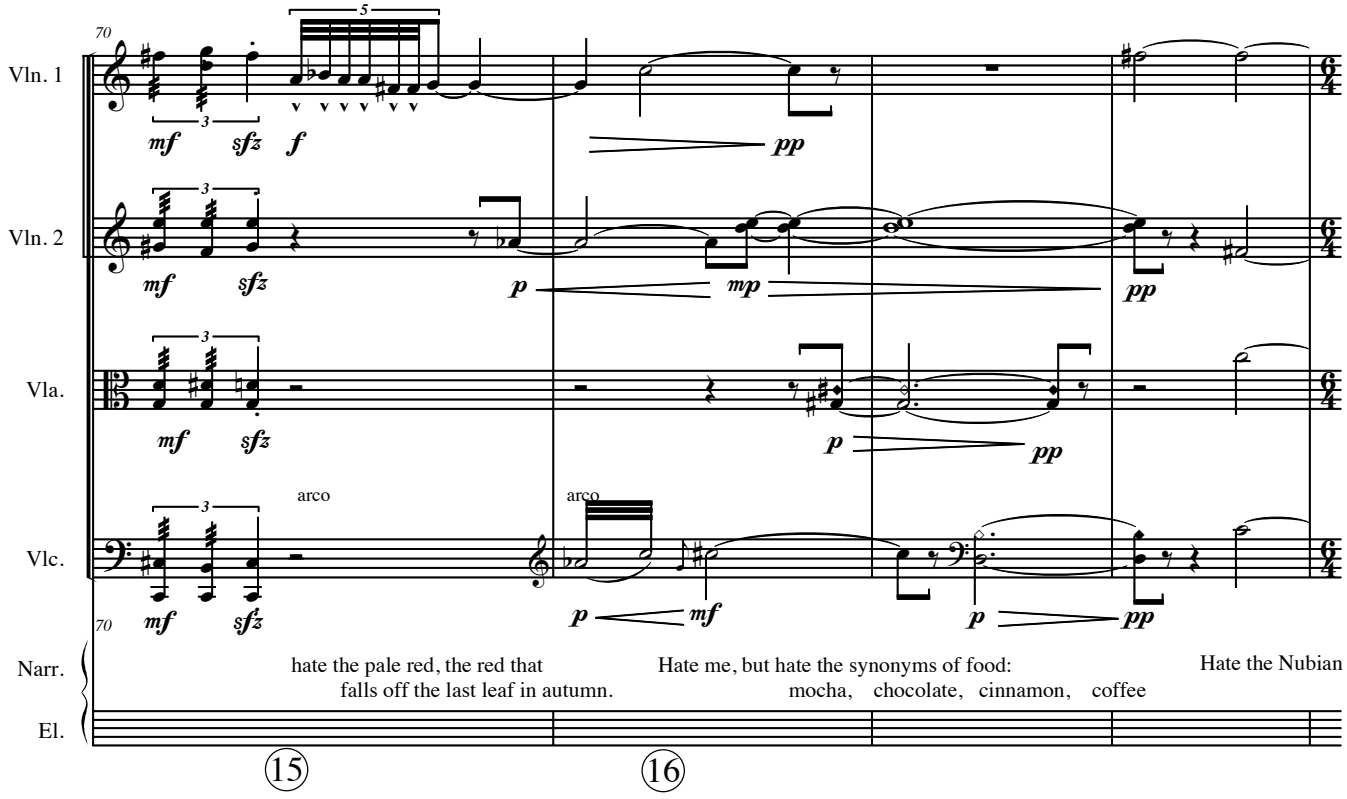

Electronic voices and drone fade in.
Vln 1 begins m. 489 after c. 10"
45
Vln. 1
Vln. 2
Vla.
Vlc.
Narr.
El.
pp
Hold through narration
mf
sfz
Accented release
as though any of that shit really matters in the long run.
That the sheer number of words you fear exceeds the synonyms of your race.

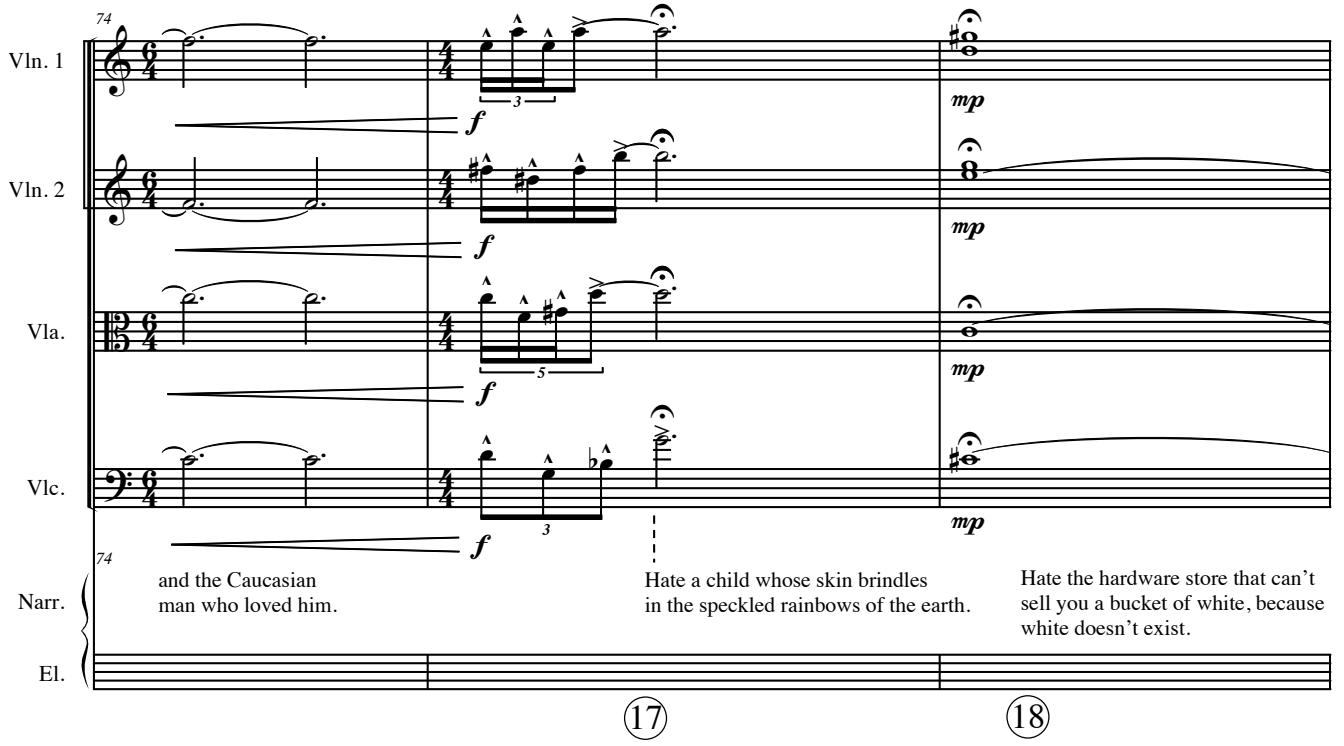

D
Slower, longingly (♪. = 90)
Violin 1 solo, other ad lib long tones (hair pin dynamics), selecting pitches freely from the given selection in the box.
49
pco rubato
Vln. 1
Vln. 2
Vla.
Vlc.
Narr.
El.
Begin after Vln 1 enters
Begin after Vln 2 enters
Begin after Vla enters
53
violently
pont.
ord.
molto
7:5

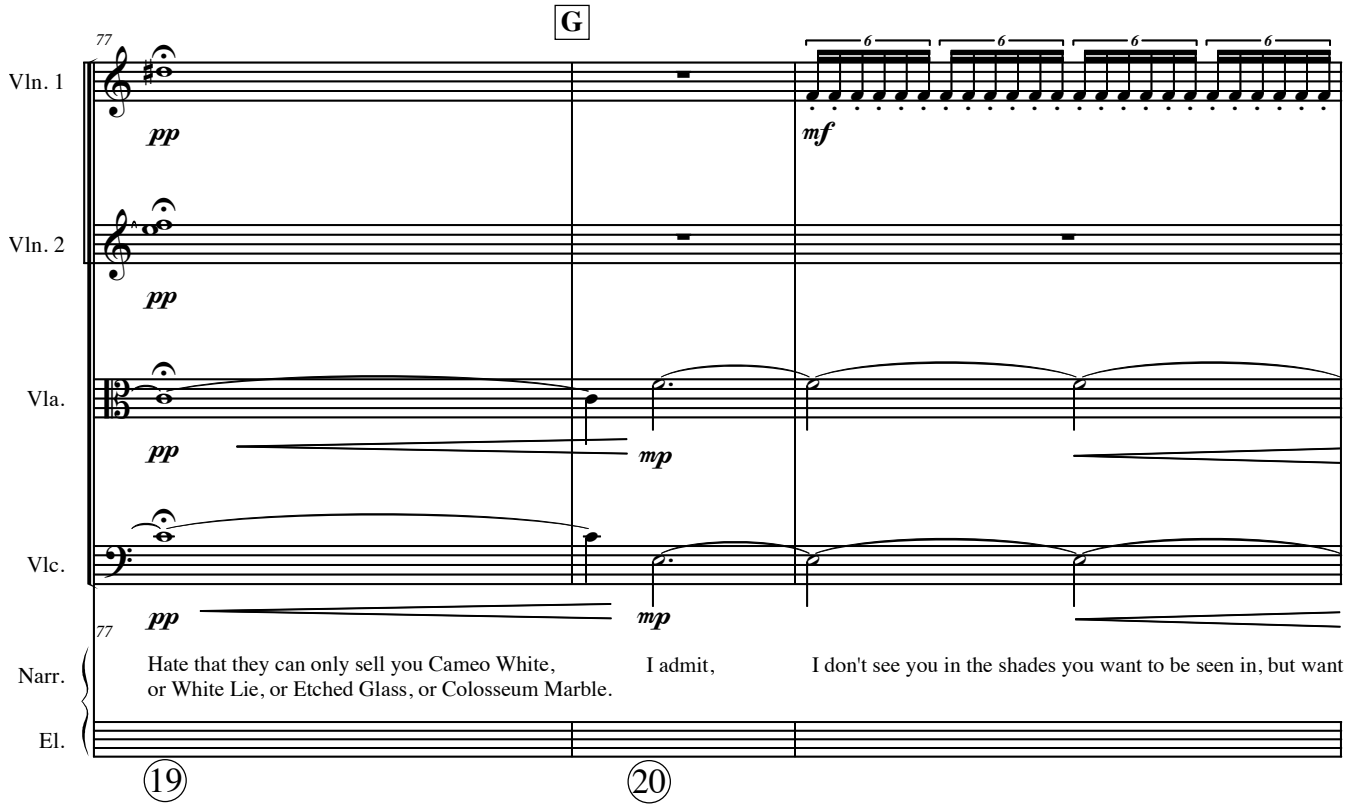

Electronic interlude (c. 45")
Cue narration as electronics fade
Fade in on "rhymed with..."
E
Piu mosso (♩. = 60)
58
Vln. 1
Vln. 2
Vla.
Vlc.
Narr.
El.
p
pp
mp
ppp
(no cresc.)
arco
I'd like to write you a poem about race,
but you don't have the right ears to hear
the synonyms.
I wish black rhymed with the other words of my complexion,
because I'm tired of being black, meaning, I'm tired
of it needing to matter.
12
13
13 triggered as electronic voices fade away
Initiates new narration about race.

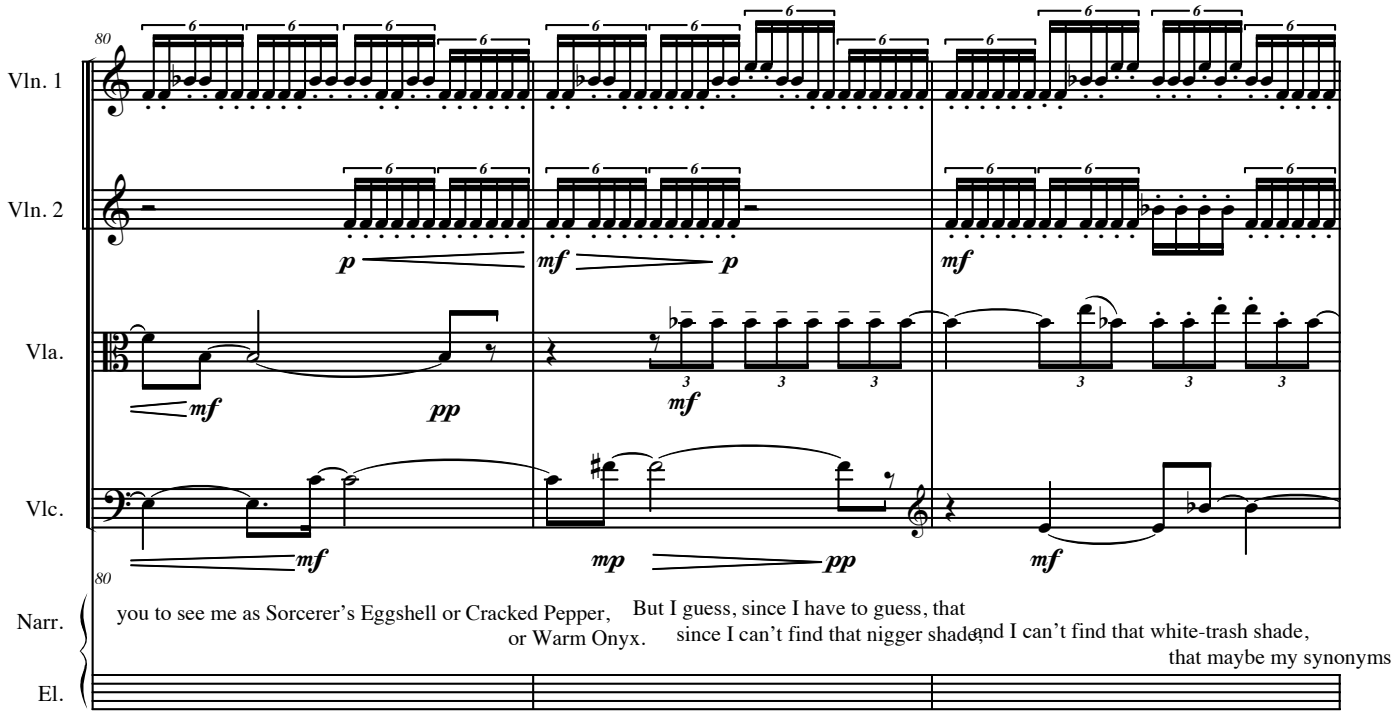

62
Vln. 1
Vln. 2
Vla.
Vlc.
Narr.
El.
mp
pp
ppp
f fp
sfz
That I have to representative
of my race. That I have to be the anti-nigger
to avoid the label which I think means act more white.
I'd write a poem asking you
to please find the synonyms of my color; find the references.

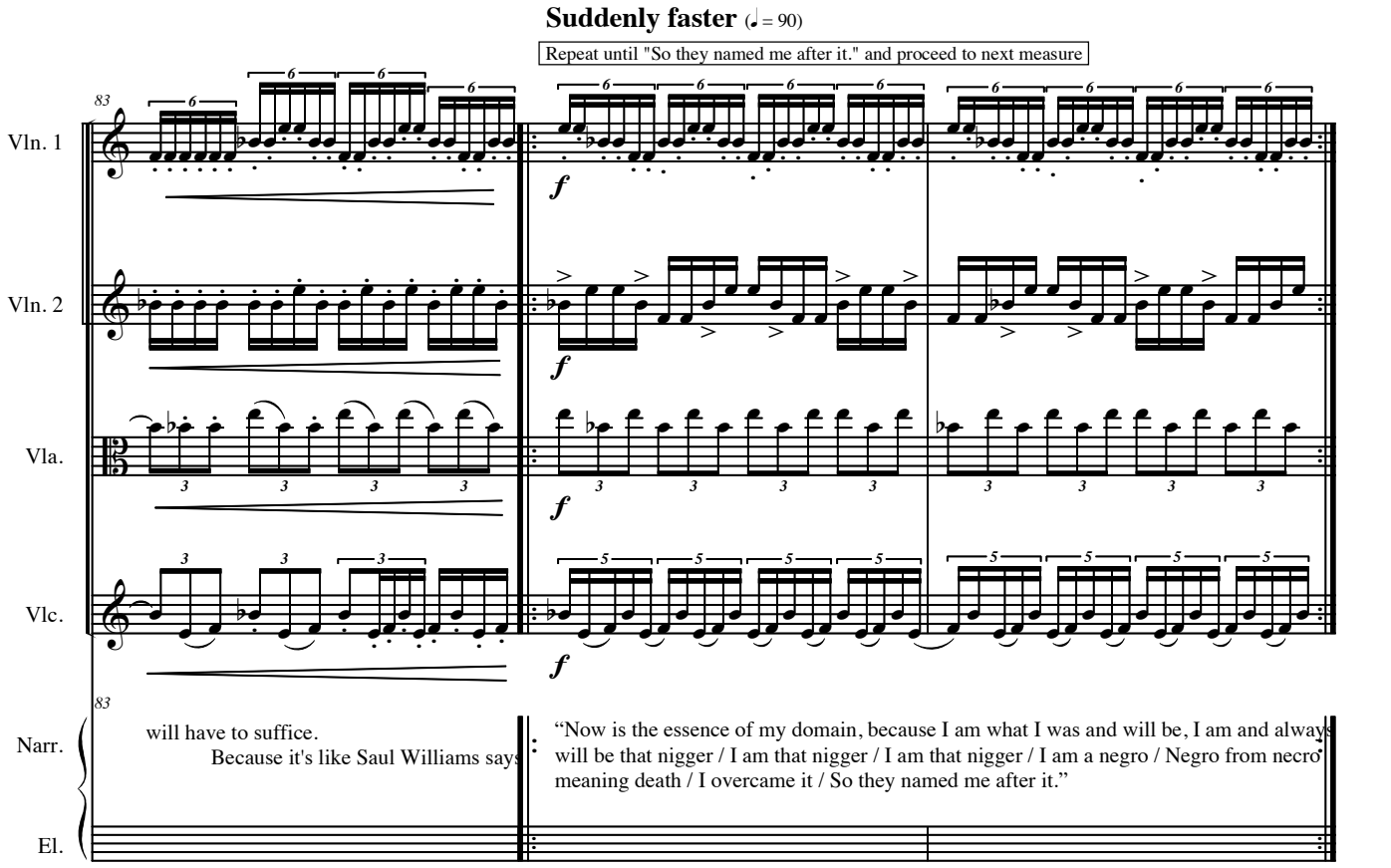

F
67
violently
Vln. 1
Vln. 2
Vla.
Vlc.
mp
ppp
mf
pp
Narr.
Hate me if you must, but hate the caramel,
the light brown sand just underneath the burned white after a full summer sun.
Hate the obsidian, chiseled
and elemental,
El.
14

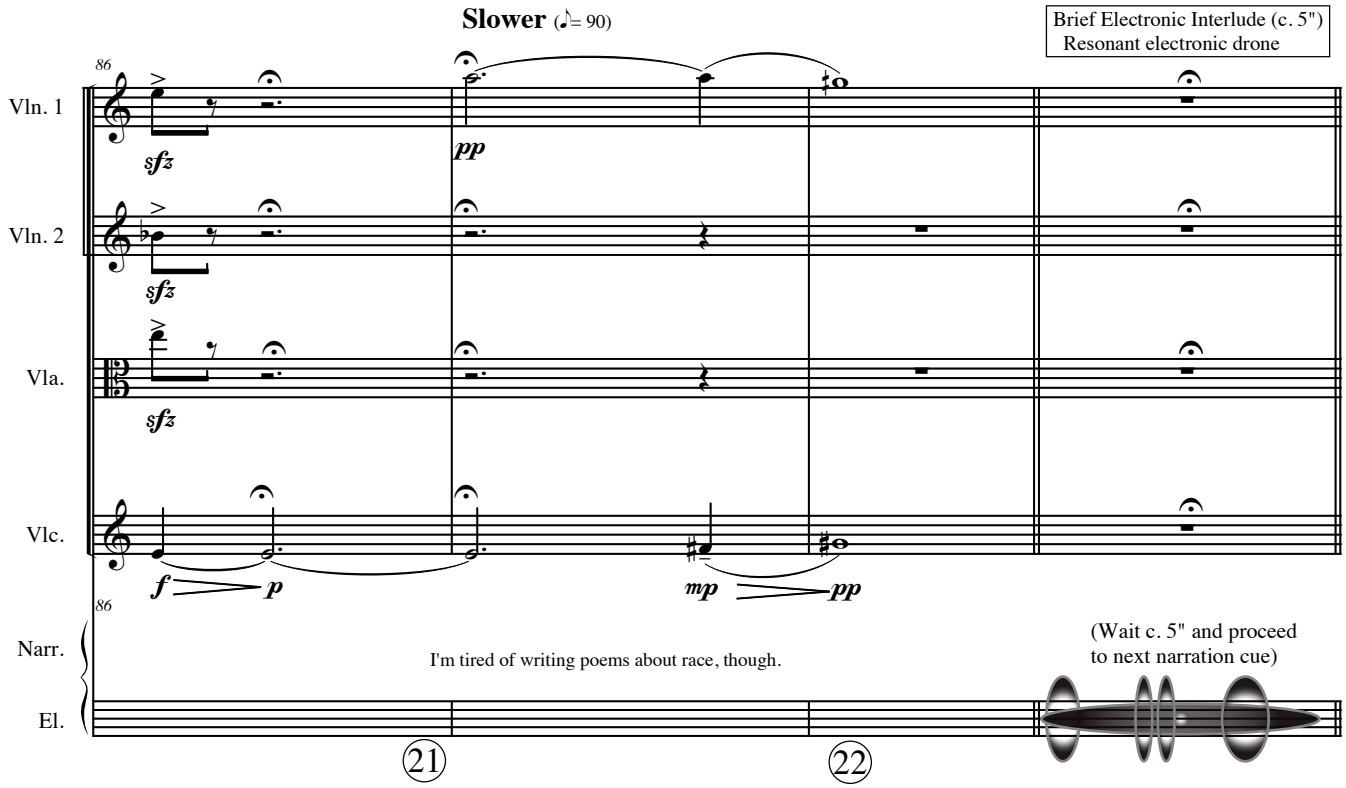

70
Vln. 1
Vln. 2
Vla.
Vlc.
arco
mf
sfz
f
p
mp
pp
Narr.
hate the pale red, the red that
falls off the last leaf in autumn.
Hate me, but hate the synonyms of food:
mocha, chocolate, cinnamon, coffee
Hate the Nubian
El.
15
16

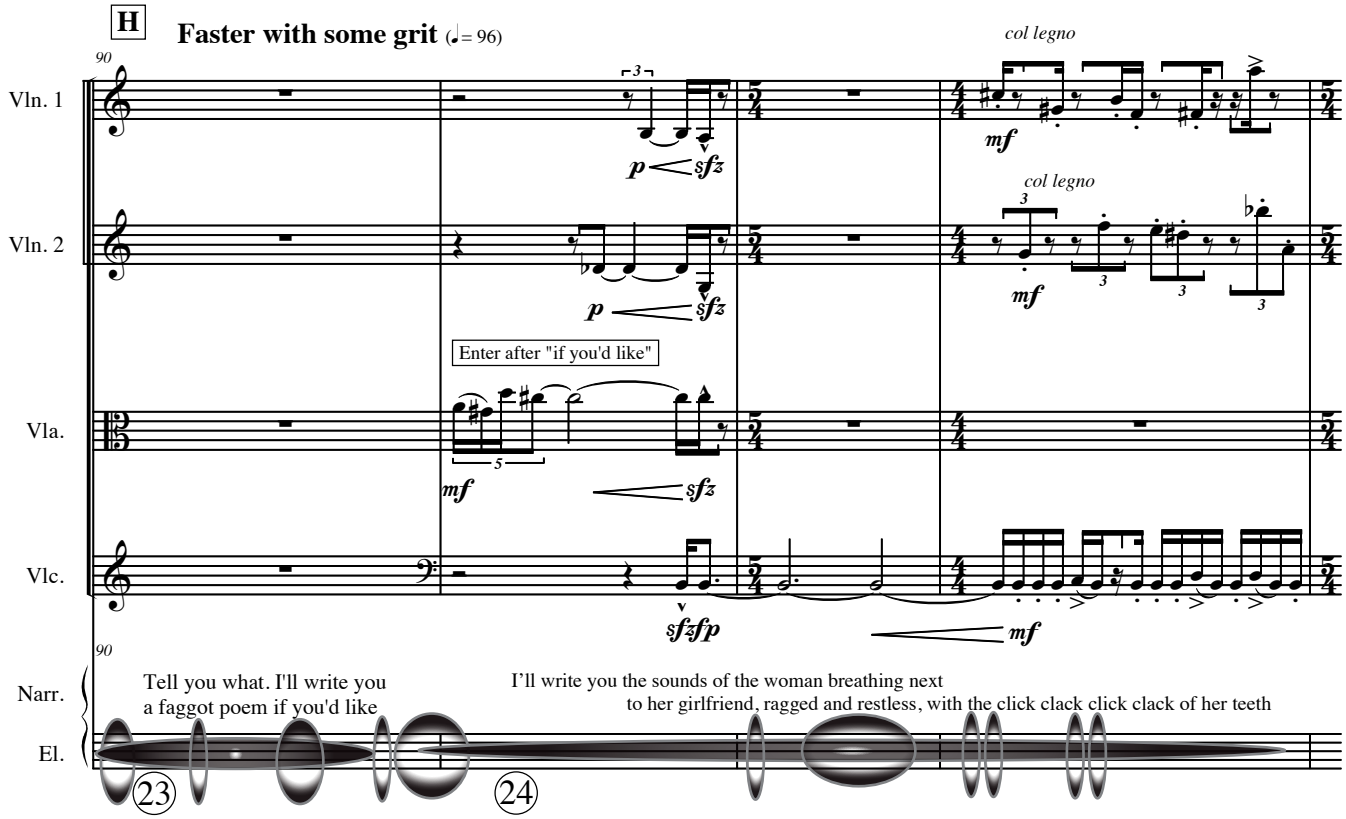

74
Vln. 1
Vln. 2
Vla.
Vlc.
f
mp
74
Narr.
and the Caucasian man who loved him.
Hate a child whose skin brindles in the speckled rainbows of the earth.
Hate the hardware store that can't sell you a bucket of white, because white doesn't exist.
El.
17
18

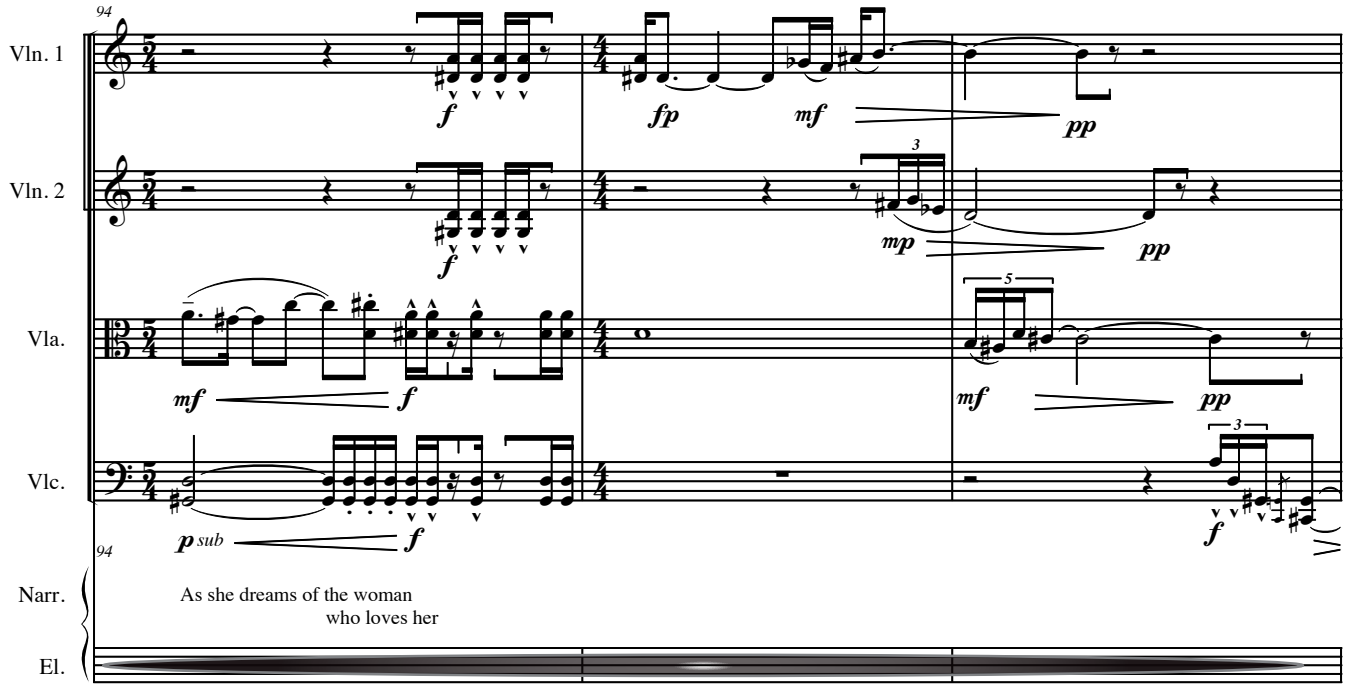

G
77
Vln. 1
Vln. 2
Vla.
Vlc.
pp
mp
mf
77
Narr.
Hate that they can only sell you Cameo White, or White Lie, or Etched Glass, or Colosseum Marble.
I admit,
I don't see you in the shades you want to be seen in, but want
El.
19
20

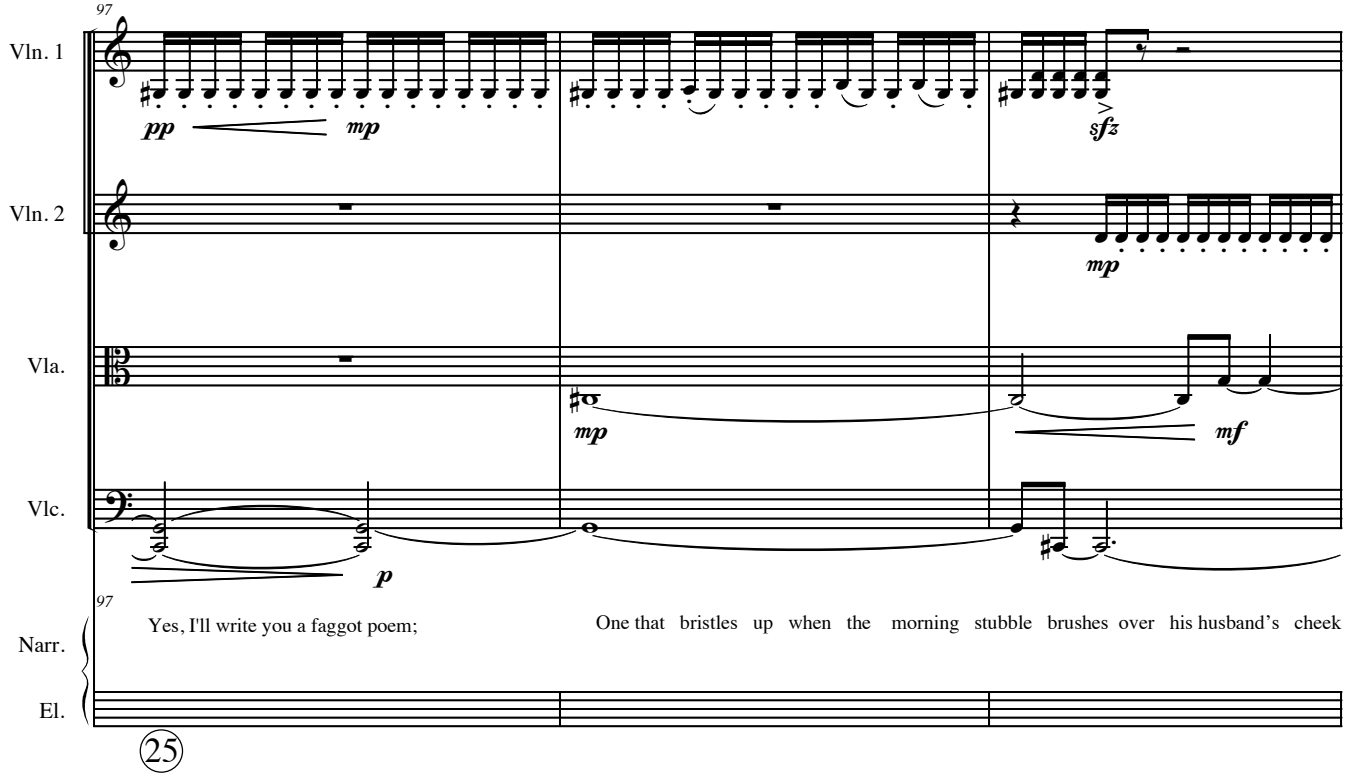

80
Vln. 1
Vln. 2
Vla.
Vlc.
Narr.
El.
you to see me as Sorcerer's Eggshell or Cracked Pepper, or Warm Onyx.
But I guess, since I have to guess, that since I can't find that nigger shade,
and I can't find that white-trash shade, that maybe my synonyms

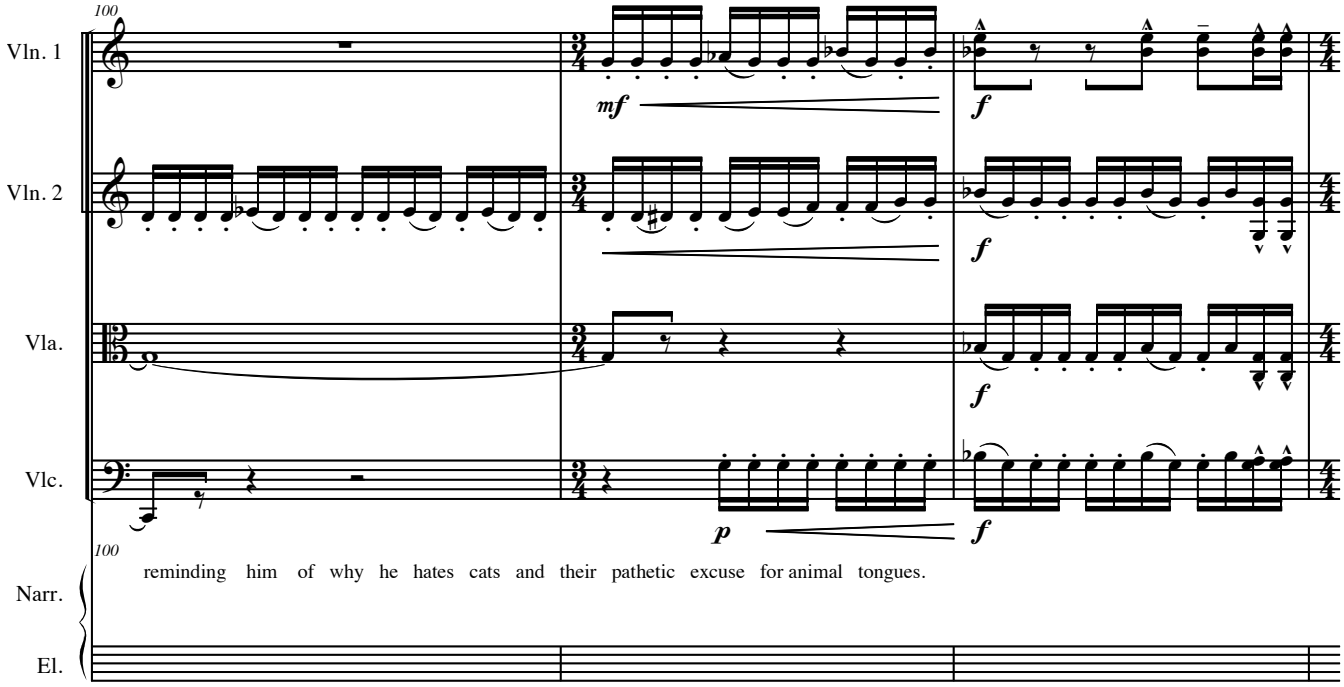

Suddenly faster (♩ = 90)
Repeat until "So they named me after it." and proceed to next measure
83
Vln. 1
Vln. 2
Vla.
Vlc.
Narr.
El.
will have to suffice.
Because it's like Saul Williams says:
"Now is the essence of my domain, because I am what I was and will be, I am and always will be that nigger / I am that nigger / I am that nigger / I am a negro / Negro from necro meaning death / I overcame it / So they named me after it."

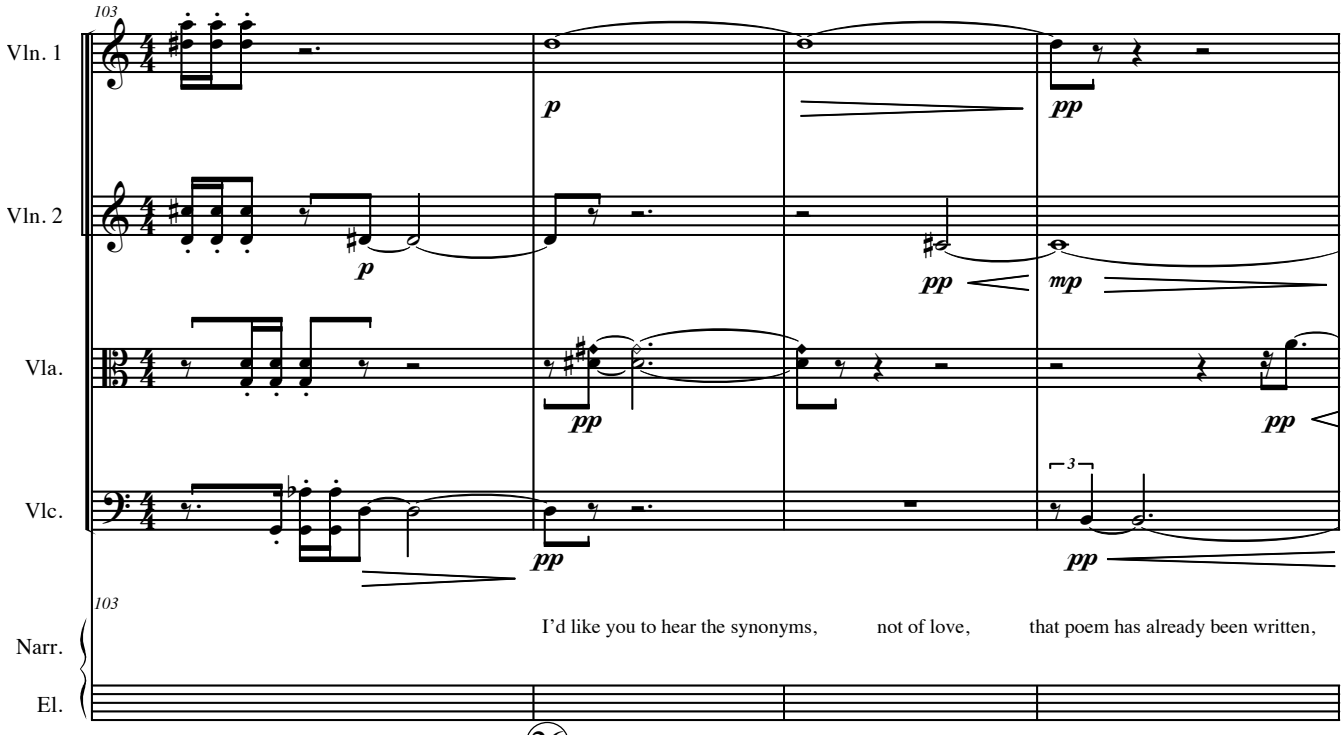

Slower (♪= 90)
Brief Electronic Interlude (c. 5")
Resonant electronic drone
86
Vln. 1
Vln. 2
Vla.
Vlc.
Narr.
El.
sfz
pp
f
p
mp
I'm tired of writing poems about race, though.
(Wait c. 5" and proceed to next narration cue)
21
22


H
Faster with some grit (♩= 96)
90
Vln. 1
Vln. 2
Vla.
Vlc.
Narr.
El.
col legno
mf
p
sfz
Enter after "if you'd like"
sfzfp
Tell you what. I'll write you a faggot poem if you'd like
I'll write you the sounds of the woman breathing next to her girlfriend, ragged and restless, with the click clack click clack of her teeth
23
24

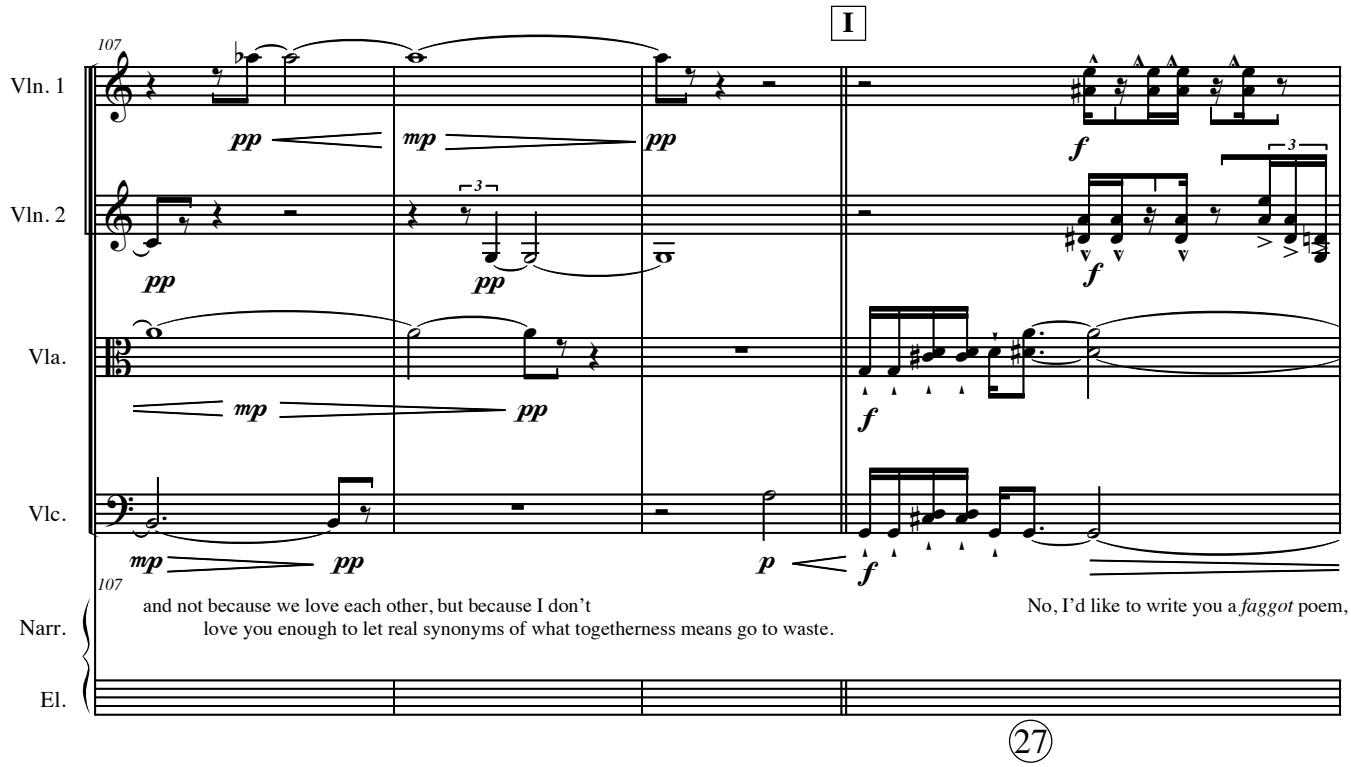

94
Vln. 1
Vln. 2
Vla.
Vlc.
94
Narr.
As she dreams of the woman
who loves her
El.

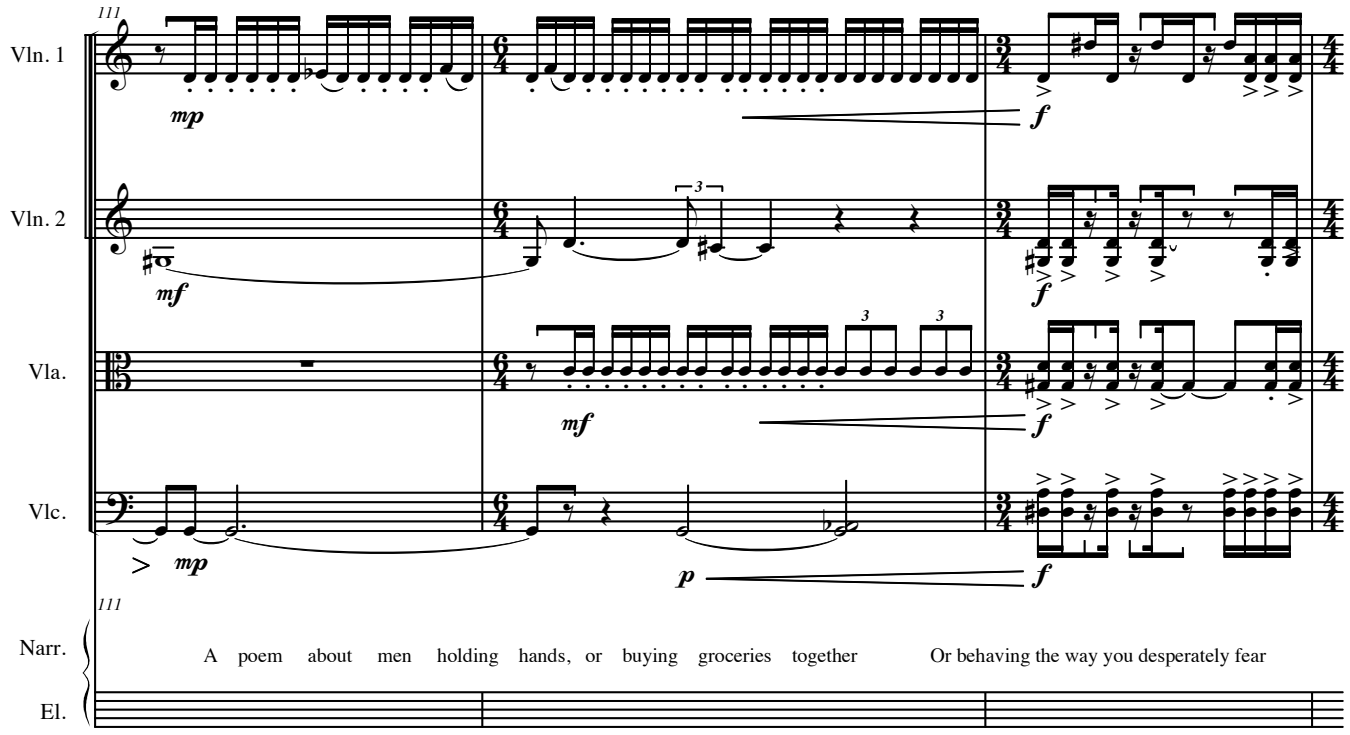

97
Vln. 1
Vln. 2
Vla.
Vlc.
97
Narr.
Yes, I'll write you a faggot poem;
One that bristles up when the morning stubble brushes over his husband's cheek
El.
25

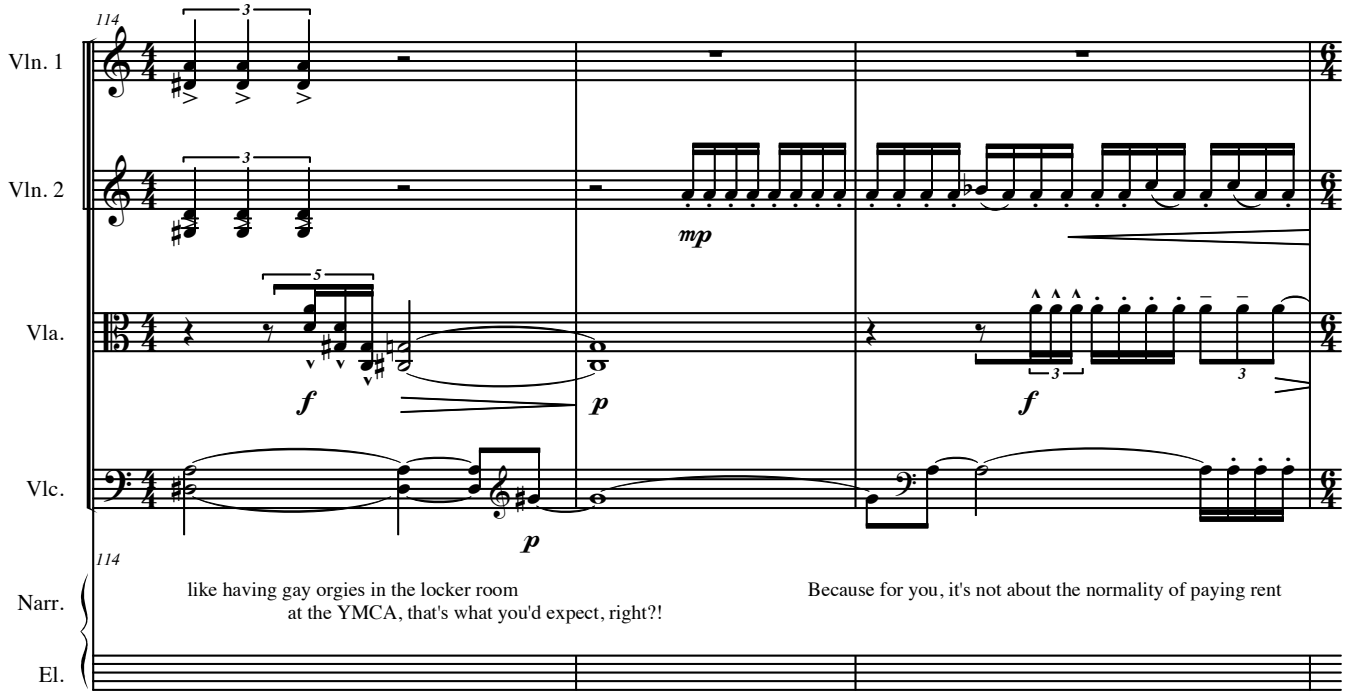

100
Vln. 1
Vln. 2
Vla.
Vlc.
mf
f
f
f
p
f
100
reminding him of why he hates cats and their pathetic excuse for animal tongues.
Narr.
El.

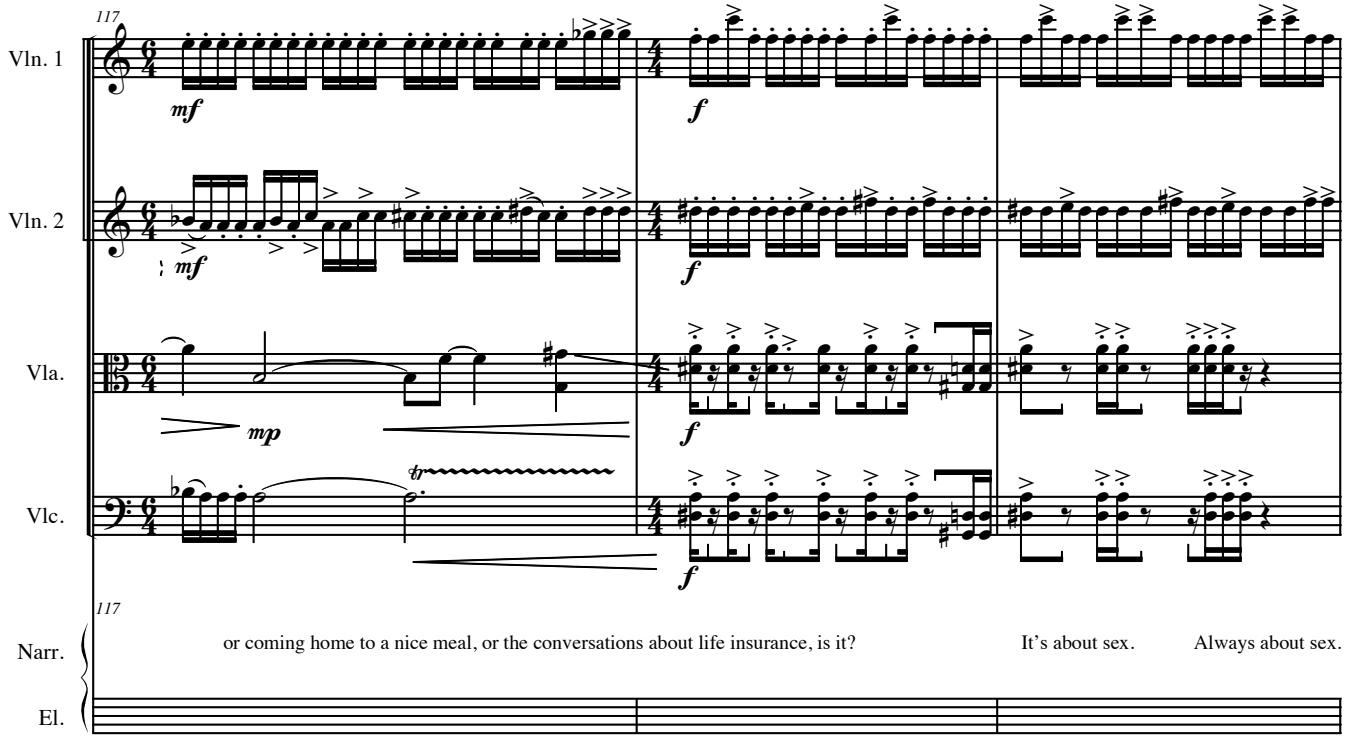

103
Vln. 1
Vln. 2
Vla.
Vlc.
p
pp
p
pp
mp
pp
pp
3
pp
103
I'd like you to hear the synonyms, not of love, that poem has already been written,
Narr.
El.

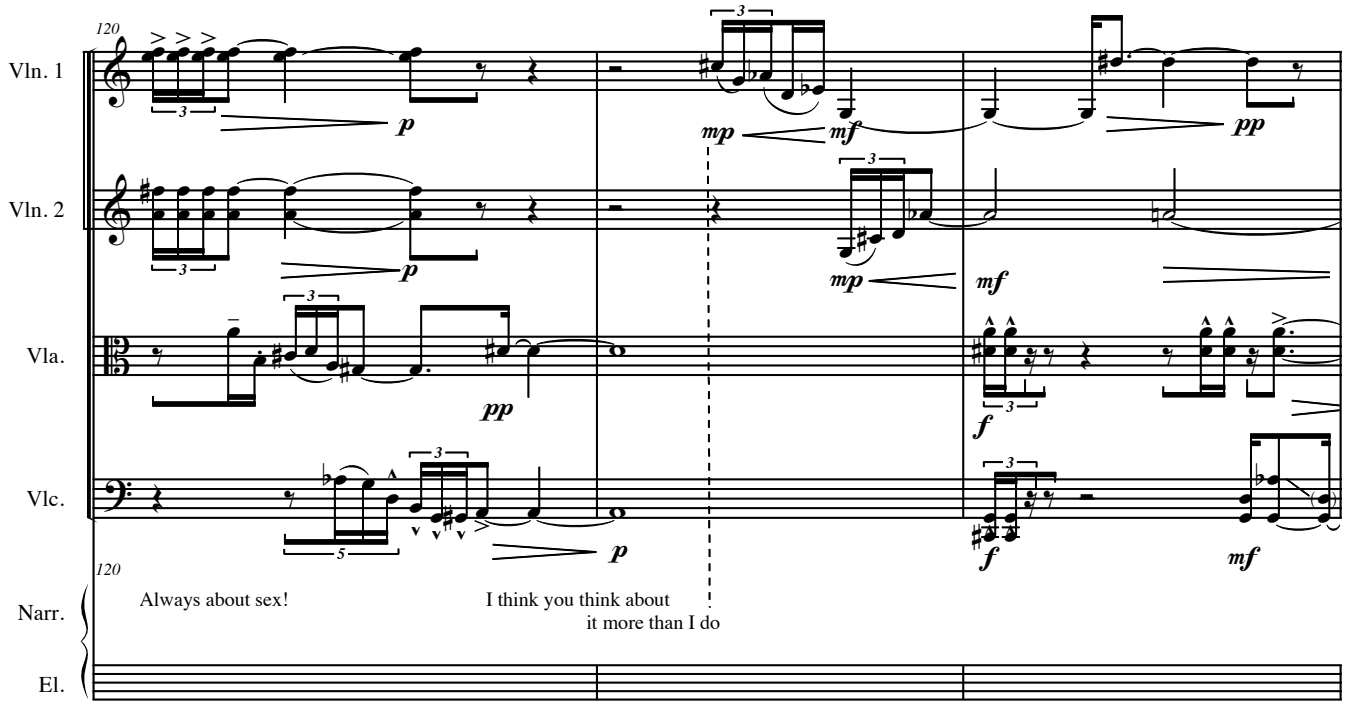
26

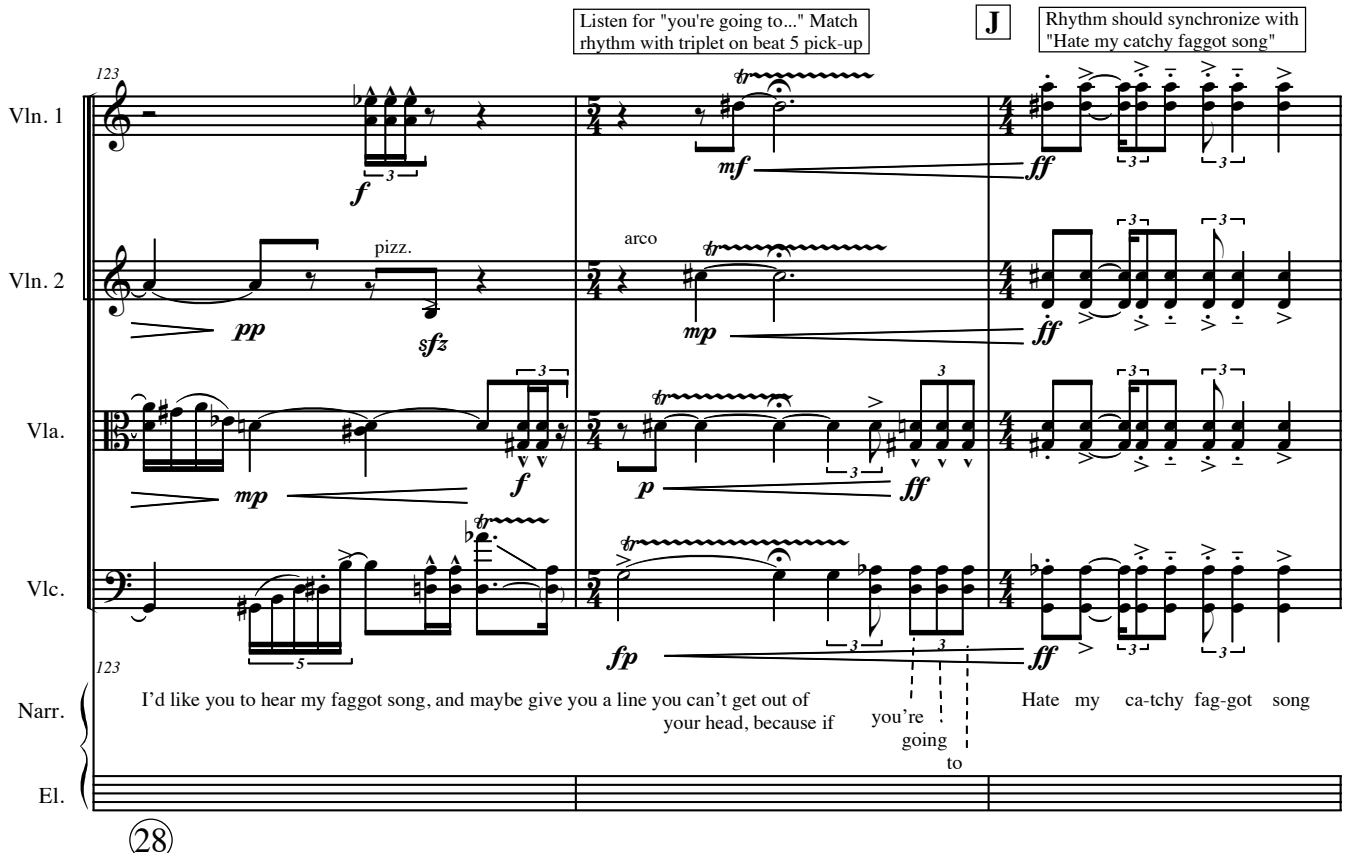

I
107
Vln. 1
Vln. 2
Vla.
Vlc.
Narr.
El.
and not because we love each other, but because I don't
love you enough to let real synonyms of what togetherness means go to waste.
No, I'd like to write you a *faggot* poem,
27


111
Vln. 1
Vln. 2
Vla.
Vlc.
Narr.
El.
A poem about men holding hands, or buying groceries together
Or behaving the way you desperately fear

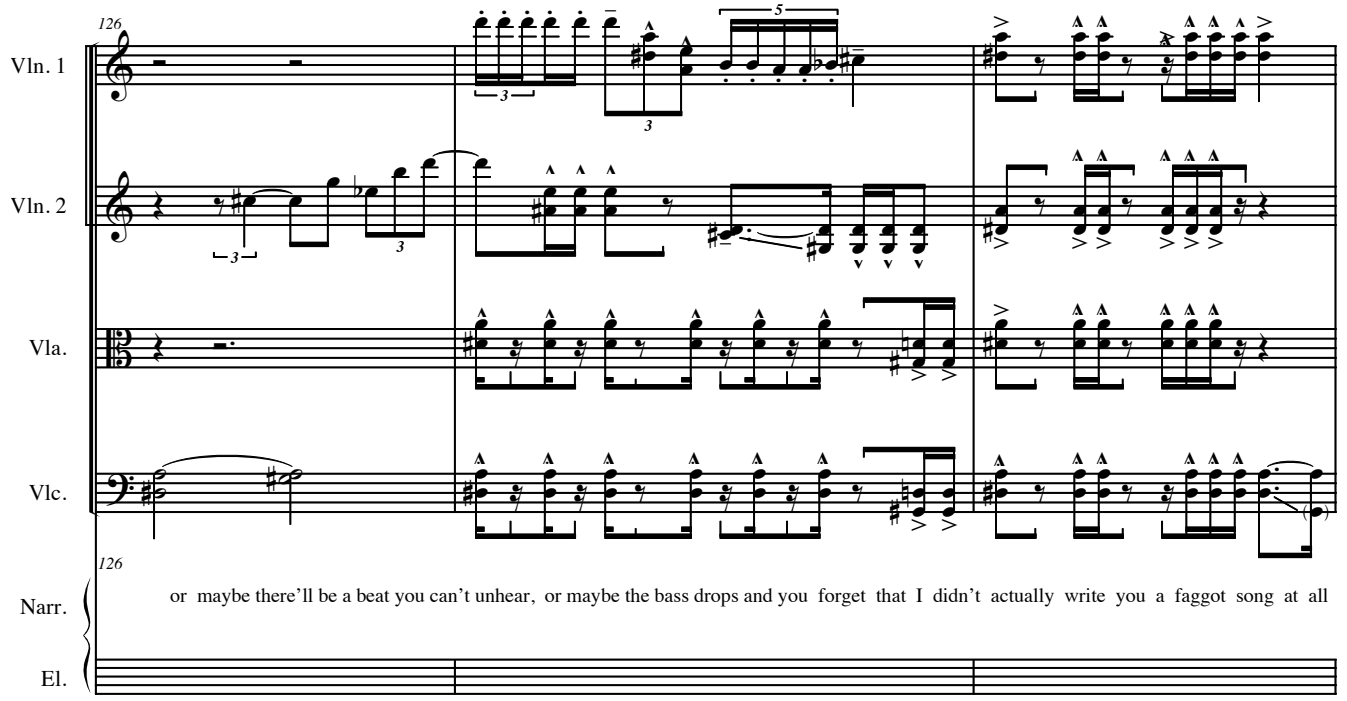

114
Vln. 1
Vln. 2
Vla.
Vlc.
Narr.
El.
like having gay orgies in the locker room
at the YMCA, that's what you'd expect, right?!
Because for you, it's not about the normality of paying rent

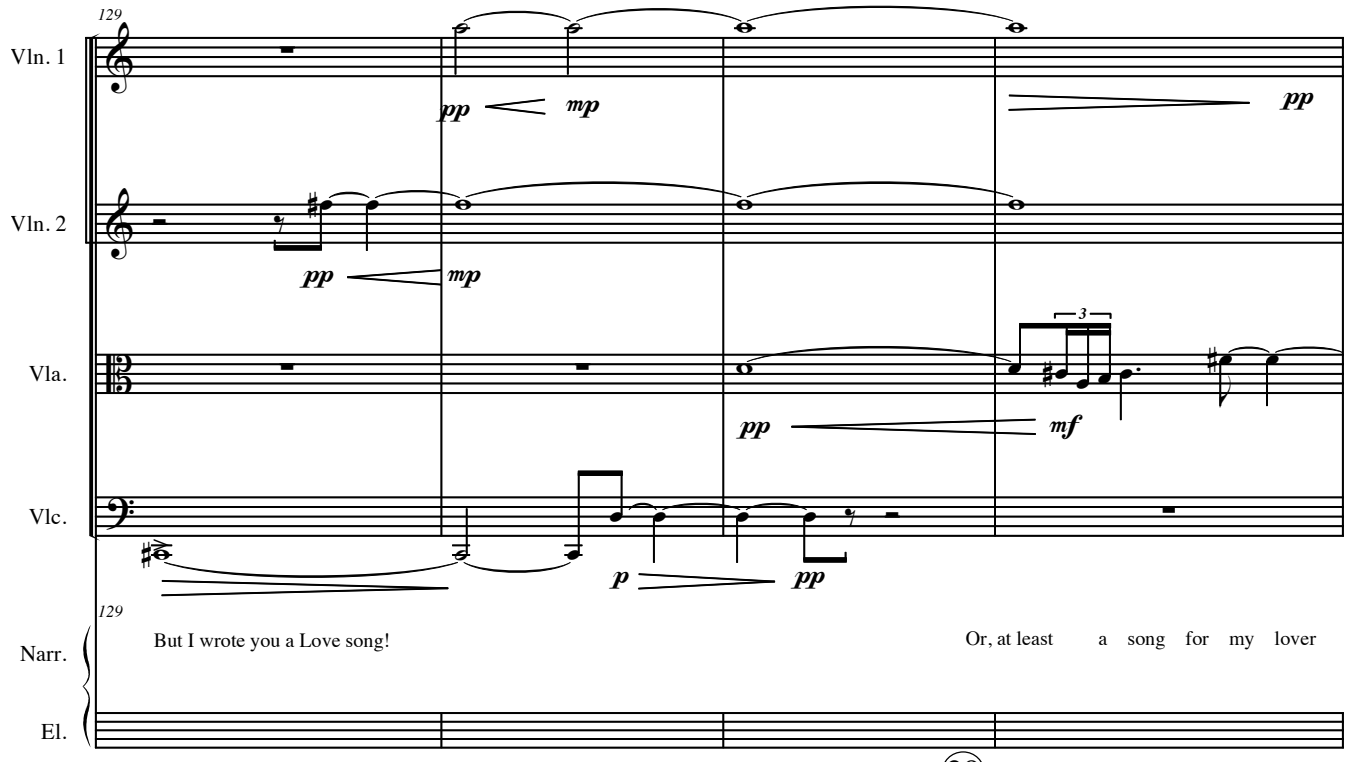

117
Vln. 1
Vln. 2
Vla.
Vlc.
Narr.
El.
or coming home to a nice meal, or the conversations about life insurance, is it?
It's about sex.
Always about sex.

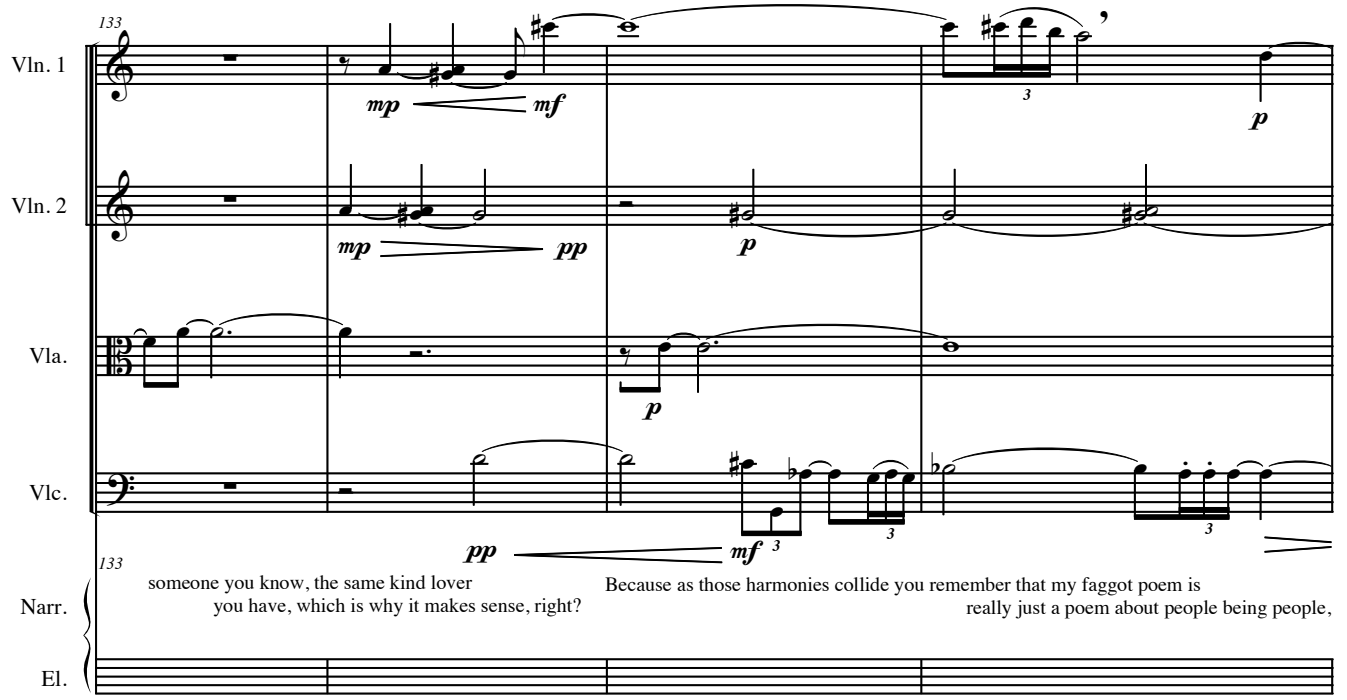

120
Vln. 1
Vln. 2
Vla.
Vlc.
120
Narr.
El.
Always about sex!
I think you think about
it more than I do

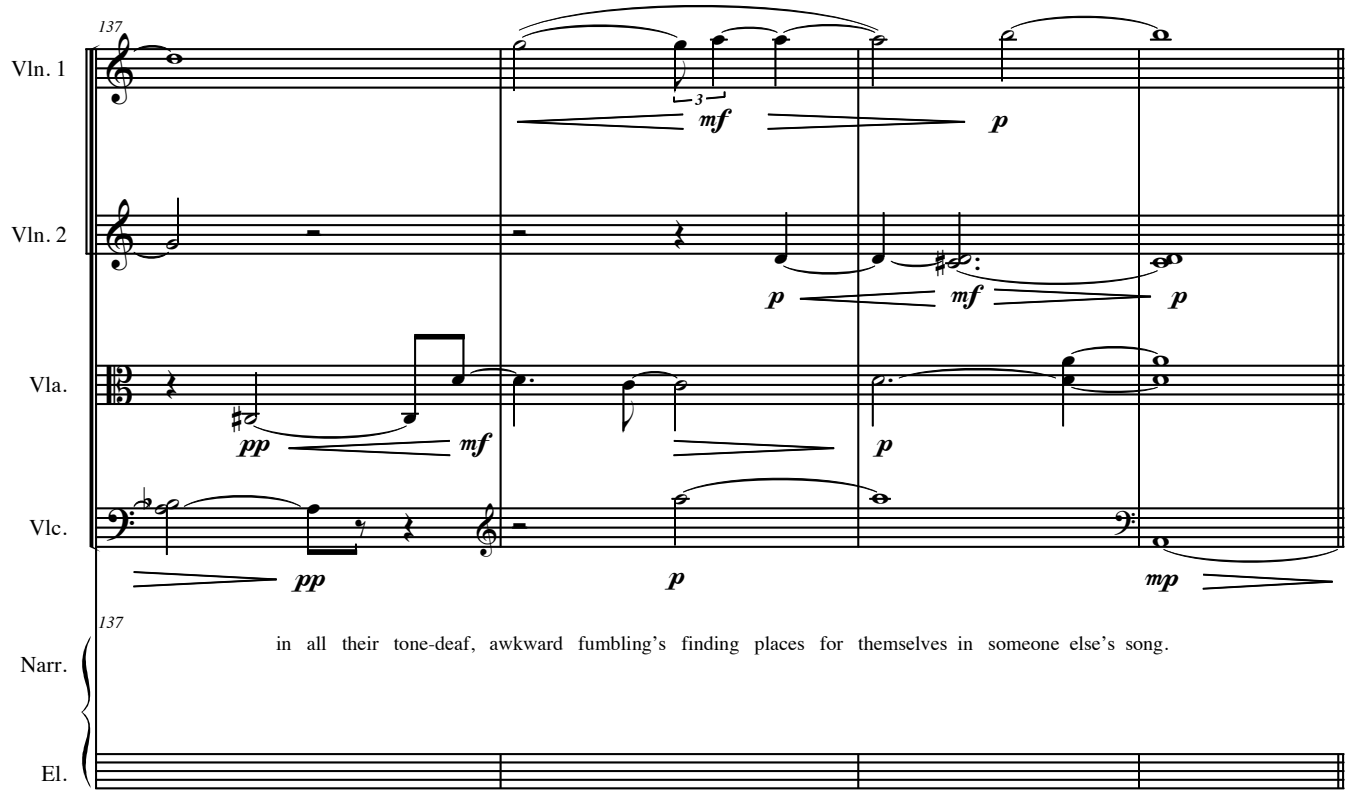

Listen for "you're going to..." Match
rhythm with triplet on beat 5 pick-up
J
Rhythm should synchronize with
"Hate my catchy faggot song"
123
Vln. 1
Vln. 2
pizz.
arco
Vla.
Vlc.
123
Narr.
El.
I'd like you to hear my faggot song, and maybe give you a line you can't get out of
your head, because if
you're
going
to
Hate my ca-tchy fag-got song

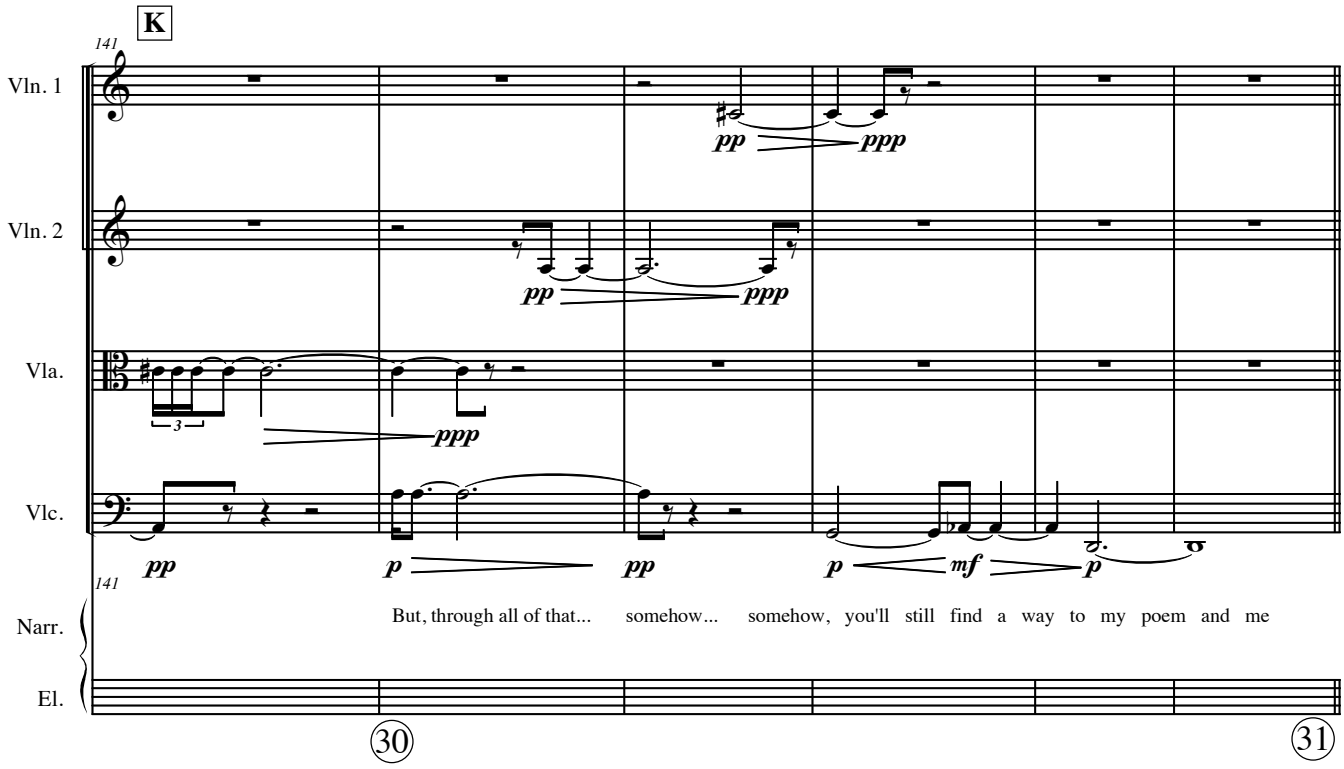
28

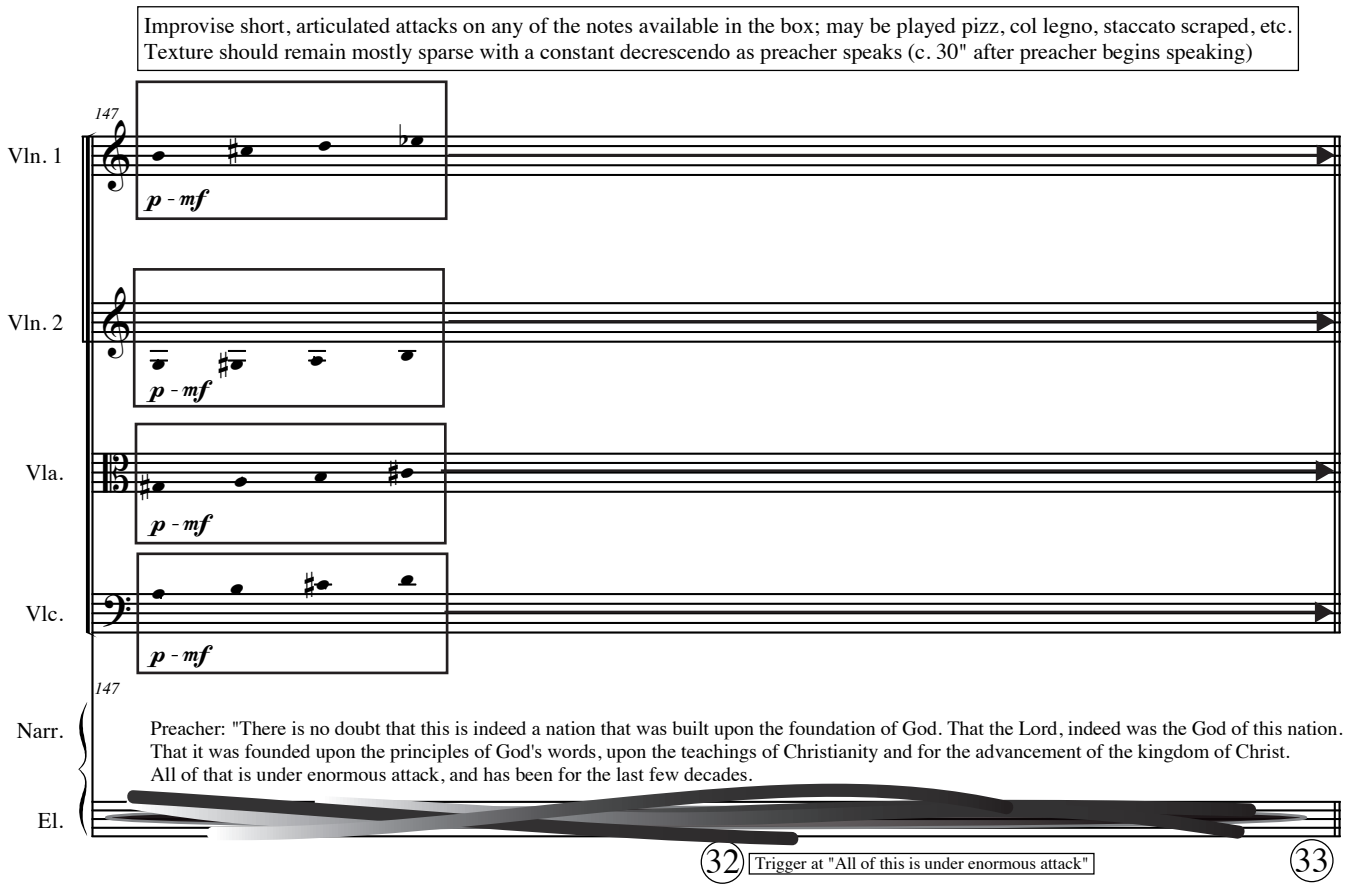

126
Vln. 1
Vln. 2
Vla.
Vlc.
126
Narr.
or maybe there'll be a beat you can't unhear, or maybe the bass drops and you forget that I didn't actually write you a faggot song at all
El.

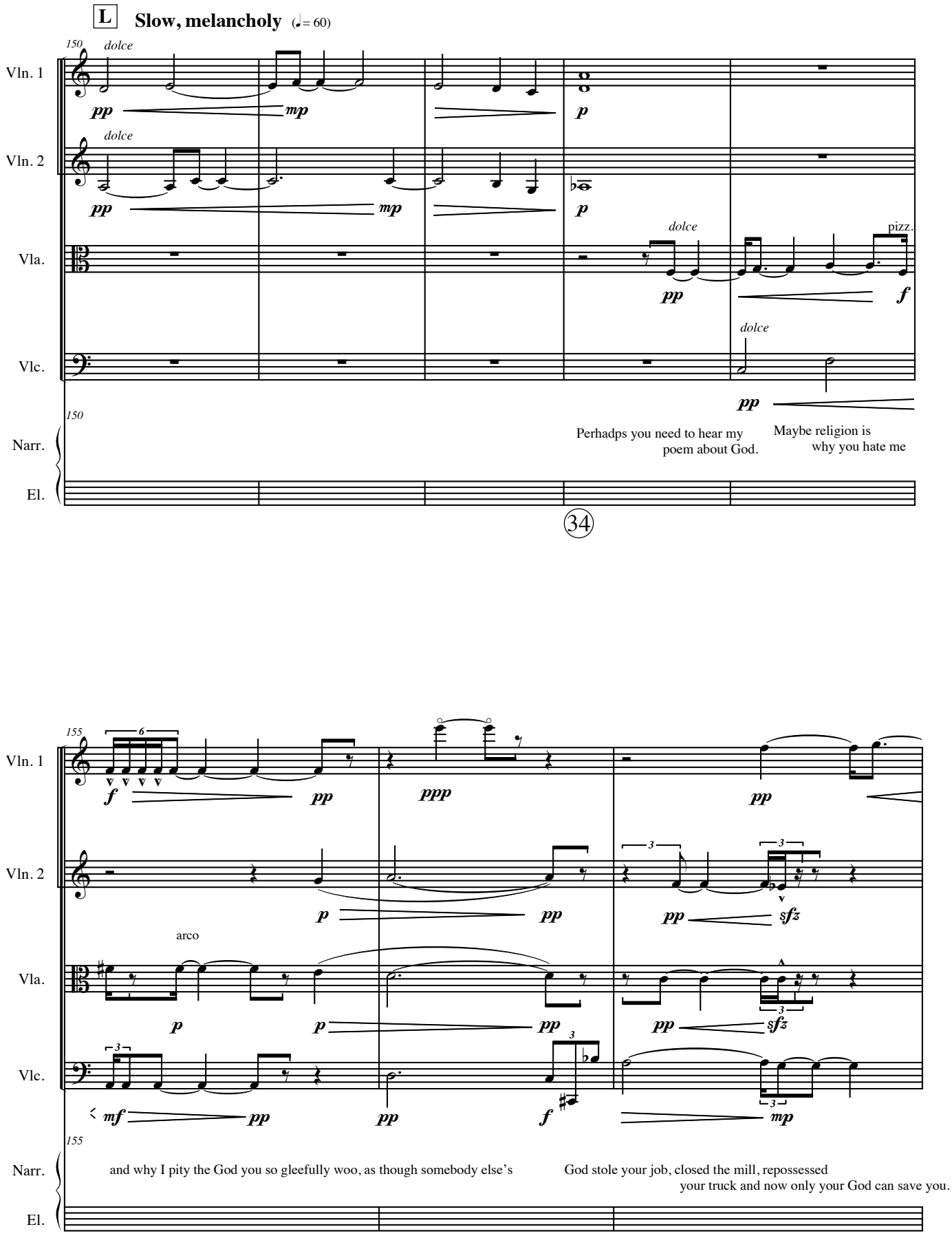

129
Vln. 1
pp
mp
pp
Vln. 2
pp
mp
Vla.
pp
mf
Vlc.
p
pp
129
Narr.
But I wrote you a Love song!
Or, at least a song for my lover
El.

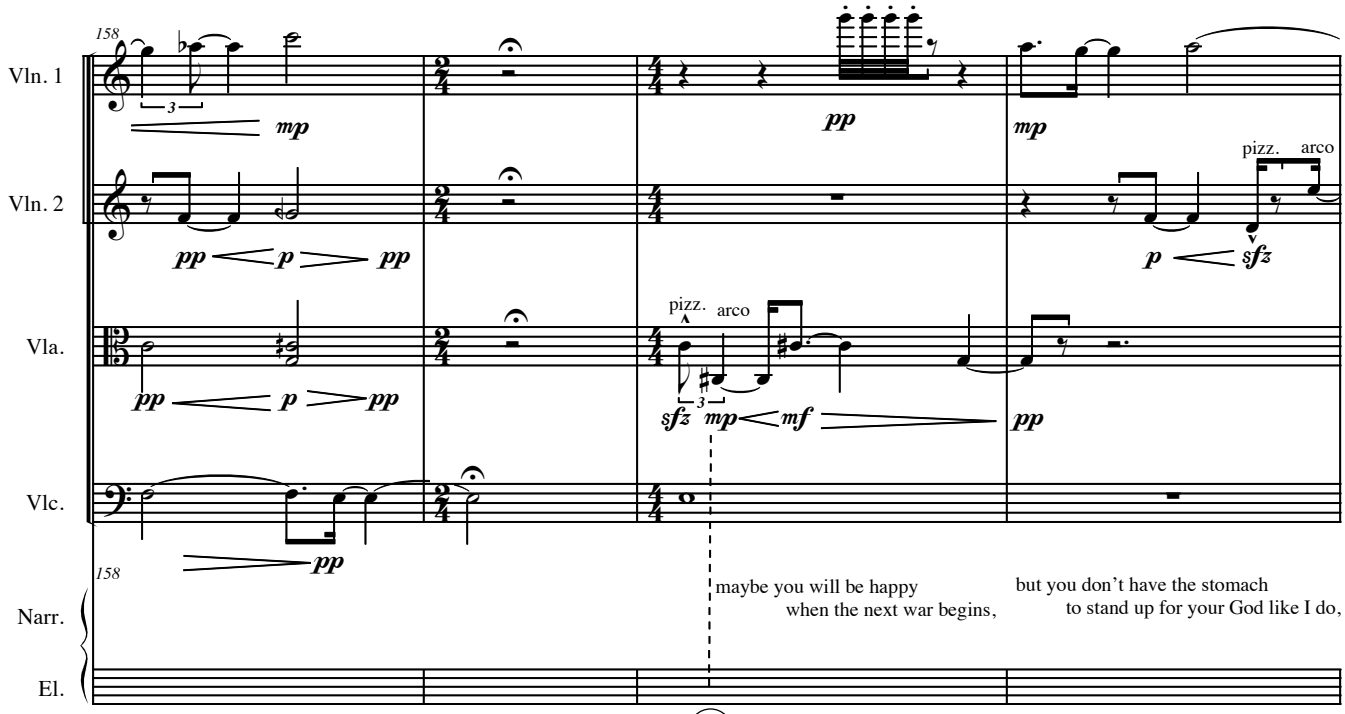

133
Vln. 1
Vln. 2
Vla.
Vlc.
mp
mf
pp
p
3
133
Narr.
El.
someone you know, the same kind lover
you have, which is why it makes sense, right?
Because as those harmonies collide you remember that my faggot poem is
really just a poem about people being people,

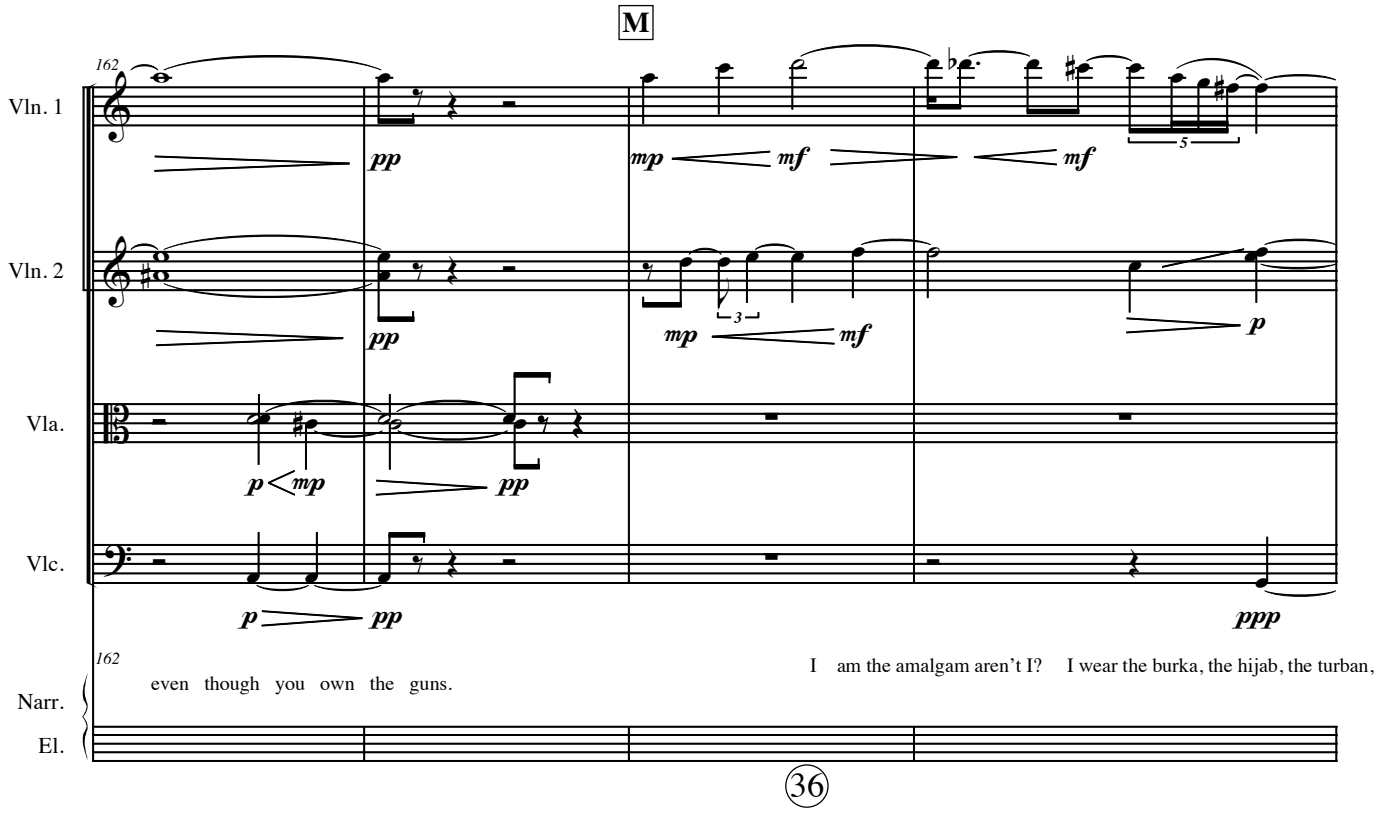

137
Vln. 1
Vln. 2
Vla.
Vlc.
pp
mf
p
mp
3
137
Narr.
El.
in all their tone-deaf, awkward fumbling's finding places for themselves in someone else's song.

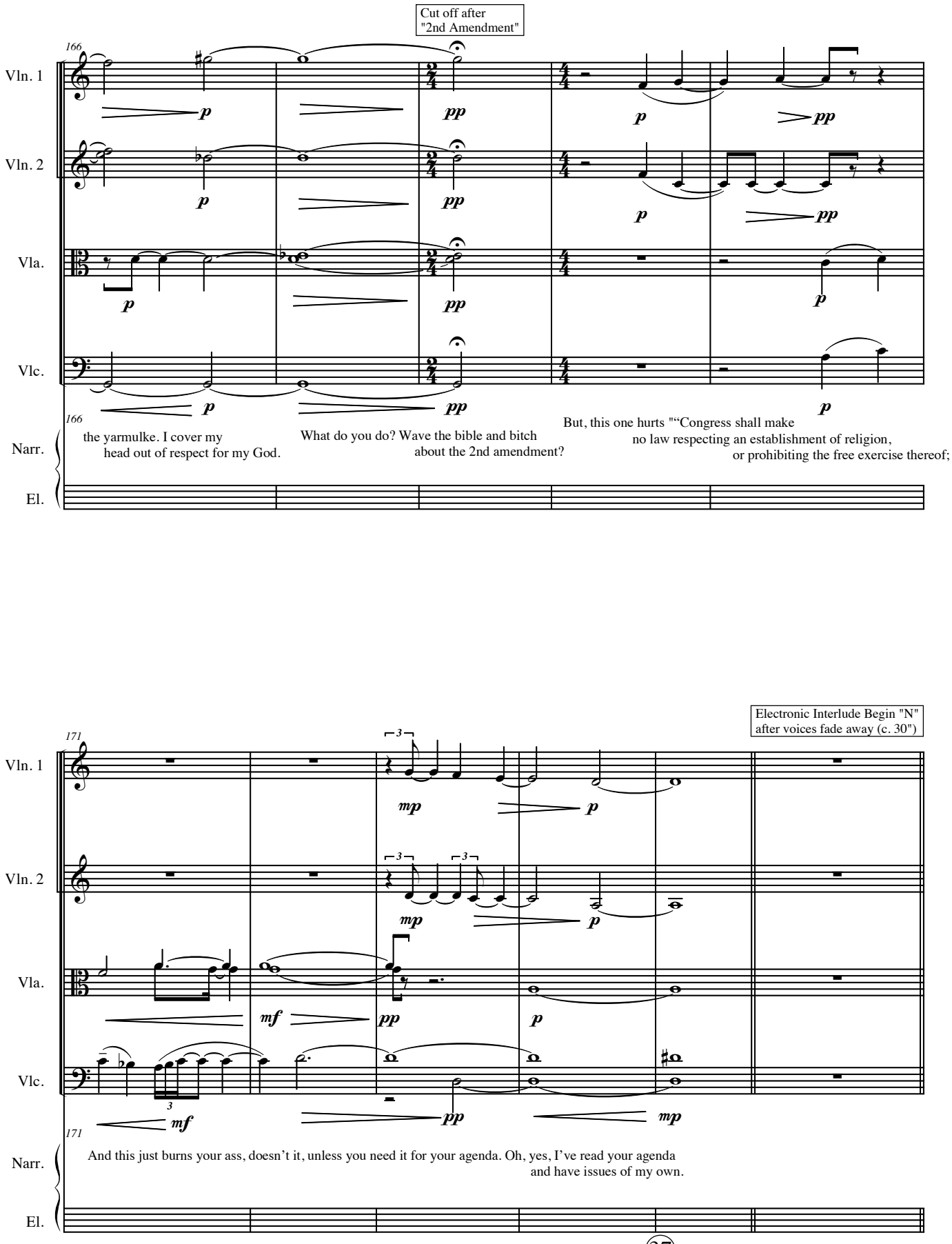

K
141
Vln. 1
Vln. 2
Vla.
Vlc.
pp
ppp
p
mf
3
141
Narr.
But, through all of that... somehow... somehow, you'll still find a way to my poem and me
El.
30
31

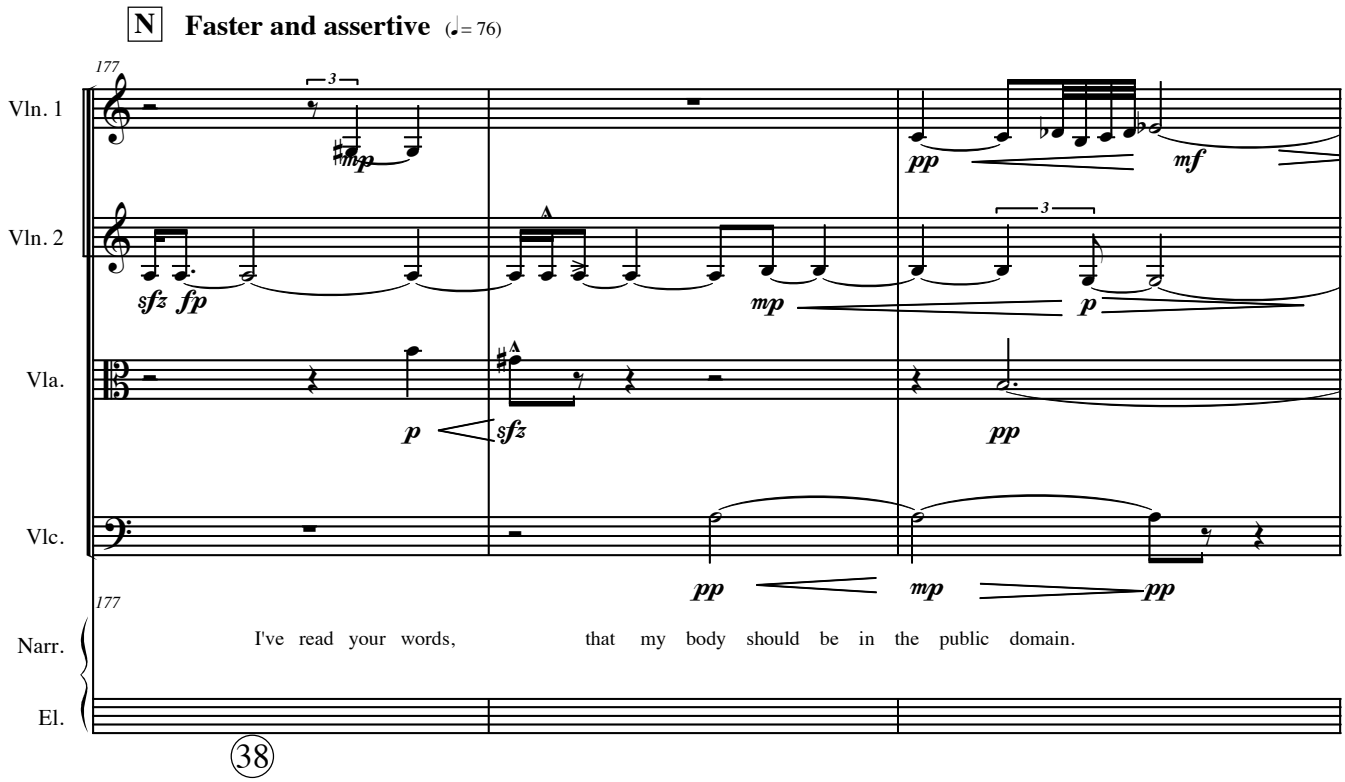

Improvise short, articulated attacks on any of the notes available in the box; may be played pizz, col legno, staccato scraped, etc.
Texture should remain mostly sparse with a constant decrescendo as preacher speaks (c. 30" after preacher begins speaking)
147
Vln. 1
Vln. 2
Vla.
Vlc.
p - mf
147
Narr.
Preacher: "There is no doubt that this is indeed a nation that was built upon the foundation of God. That the Lord, indeed was the God of this nation.
That it was founded upon the principles of God's words, upon the teachings of Christianity and for the advancement of the kingdom of Christ.
All of that is under enormous attack, and has been for the last few decades.
El.
32
Trigger at "All of this is under enormous attack"
33

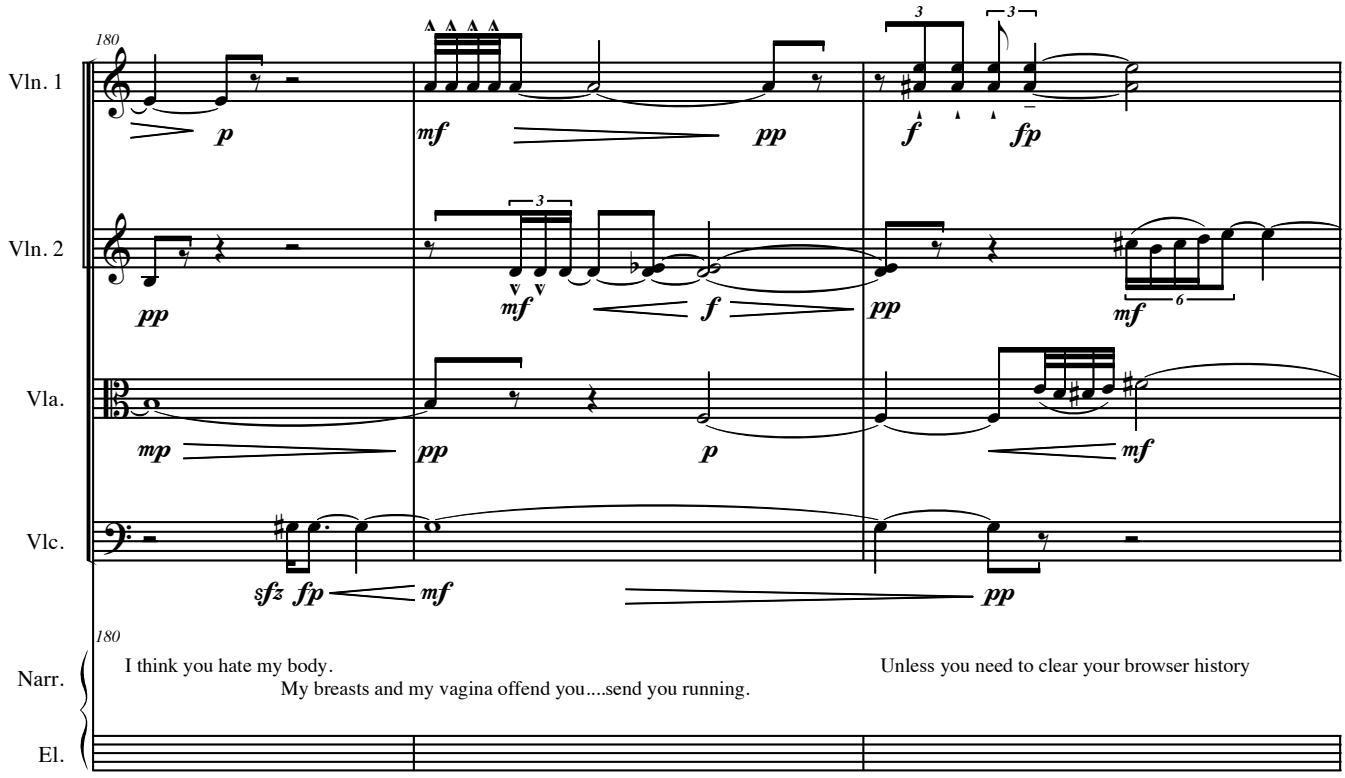

L
Slow, melancholy (♩= 60)
150
dolce
Vln. 1
Vln. 2
Vla.
Vlc.
Narr.
El.
pp
mp
p
dolce
pizz.
f
Perhadps you need to hear my poem about God.
Maybe religion is why you hate me
34
155
arco
and why I pity the God you so gleefully woo, as though somebody else's
God stole your job, closed the mill, repossessed your truck and now only your God can save you.

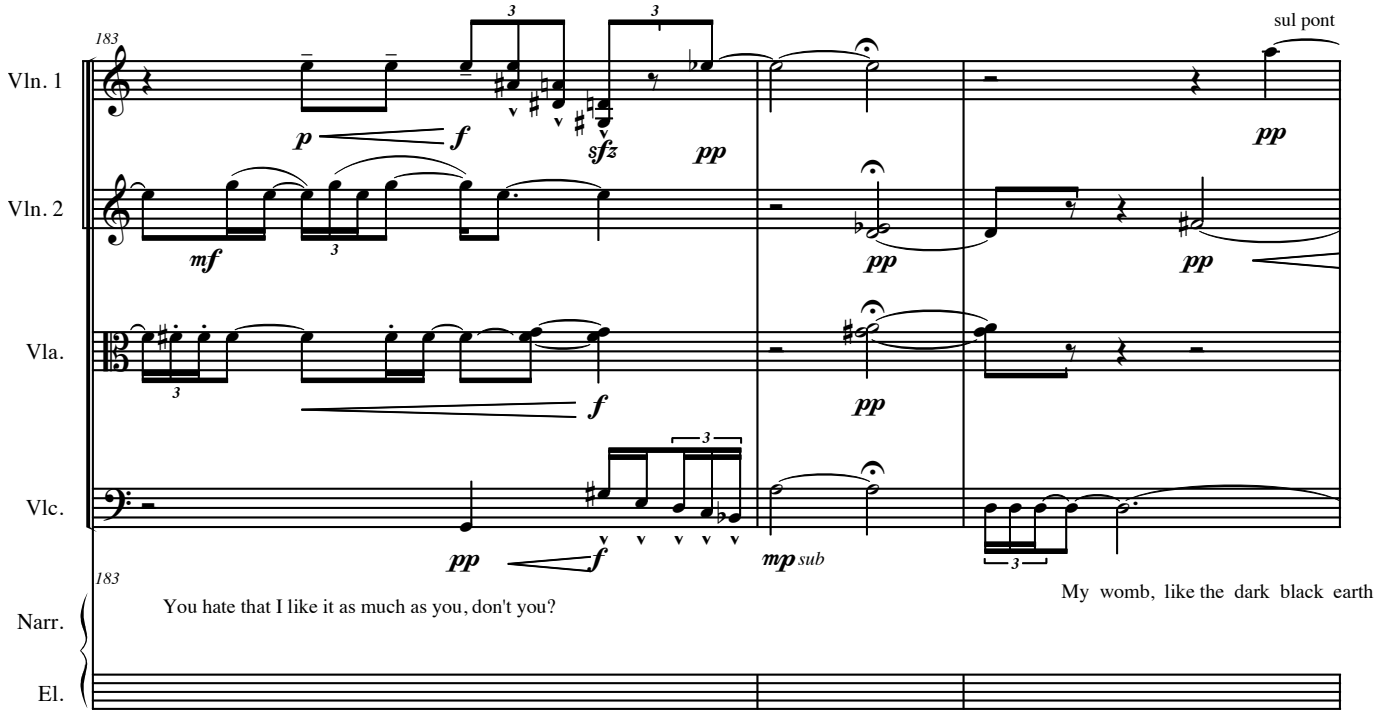

158
Vln. 1
Vln. 2
Vla.
Vlc.
158
Narr.
El.
pizz.
arco
maybe you will be happy
when the next war begins,
but you don't have the stomach
to stand up for your God like I do,
35

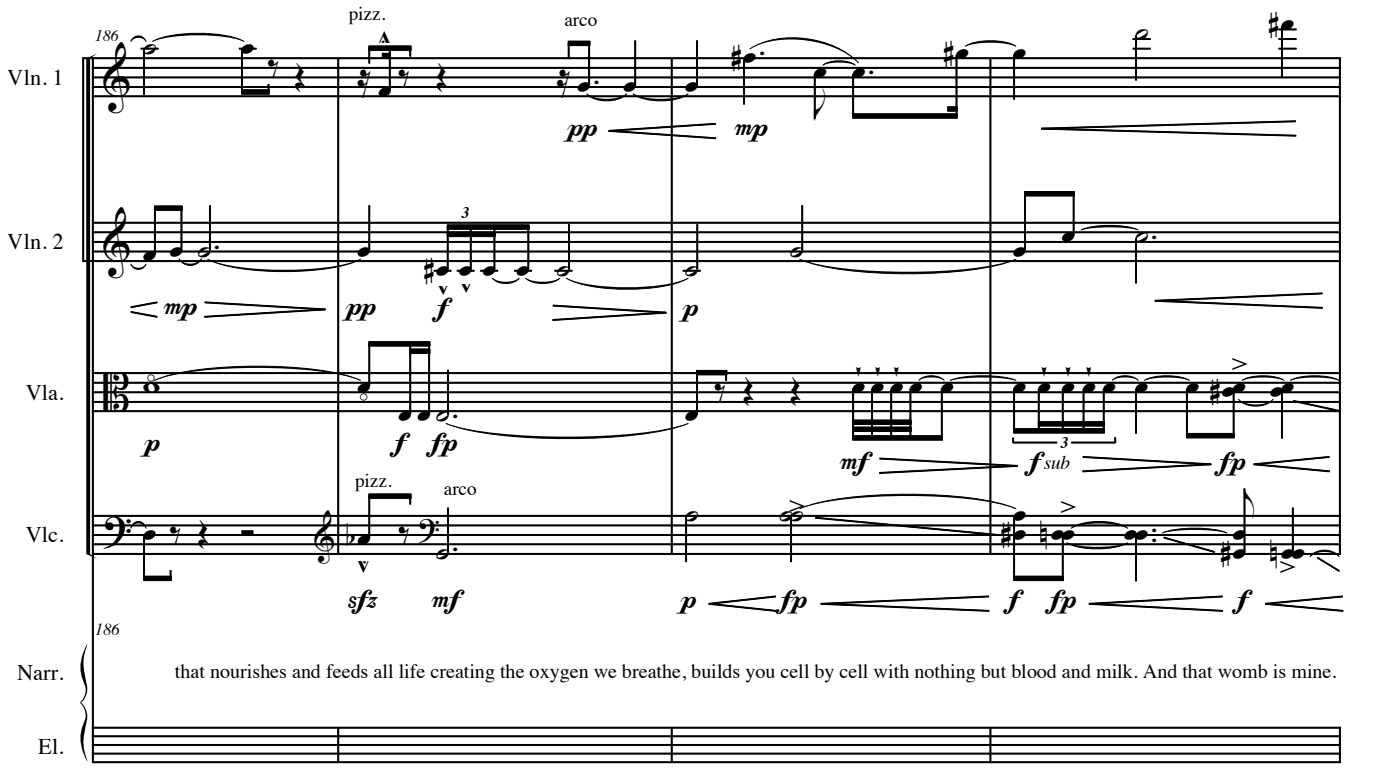

M
162
Vln. 1
Vln. 2
Vla.
Vlc.
162
Narr.
El.
even though you own the guns.
I am the amalgam aren't I? I wear the burka, the hijab, the turban,
36

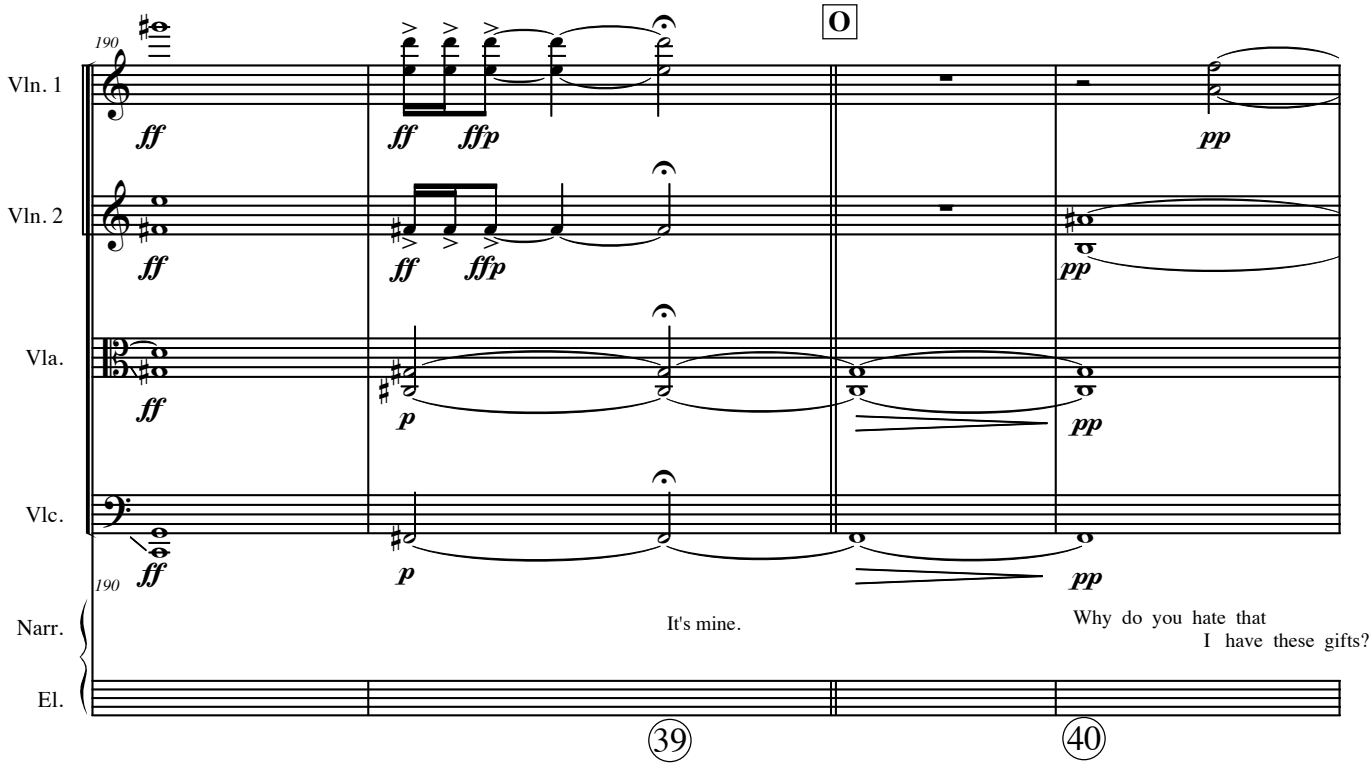

Cut off after
"2nd Amendment"
166
Vln. 1
Vln. 2
Vla.
Vlc.
Narr.
El.
the yarmulke. I cover my
head out of respect for my God.
What do you do? Wave the bible and bitch
about the 2nd amendment?
But, this one hurts ""Congress shall make
no law respecting an establishment of religion,
or prohibiting the free exercise thereof;
Electronic Interlude Begin "N"
after voices fade away (c. 30")
171
And this just burns your ass, doesn't it, unless you need it for your agenda. Oh, yes, I've read your agenda
and have issues of my own.

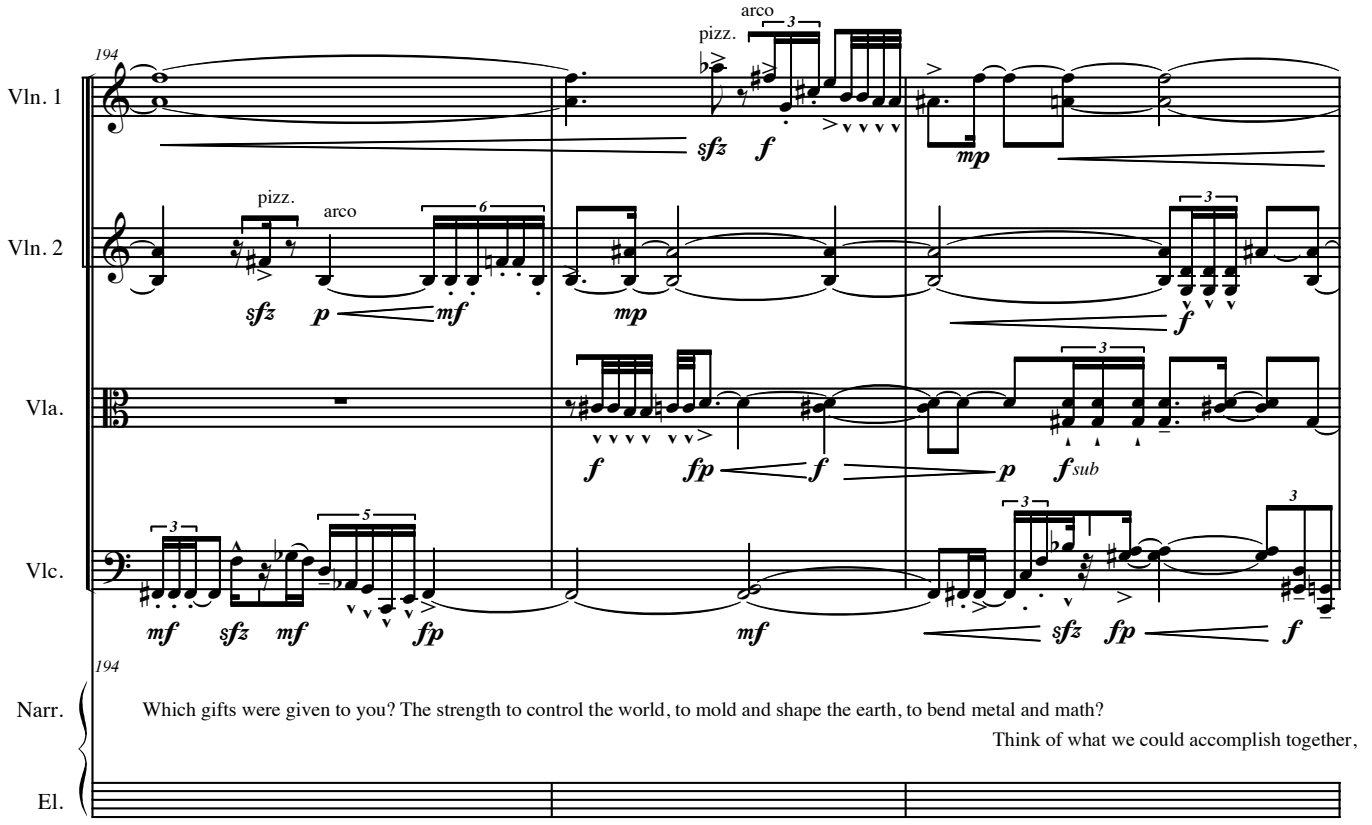

N
Faster and assertive (♩= 76)
177
Vln. 1
Vln. 2
Vla.
Vlc.
177
Narr.
I've read your words,
that my body should be in the public domain.
El.
38

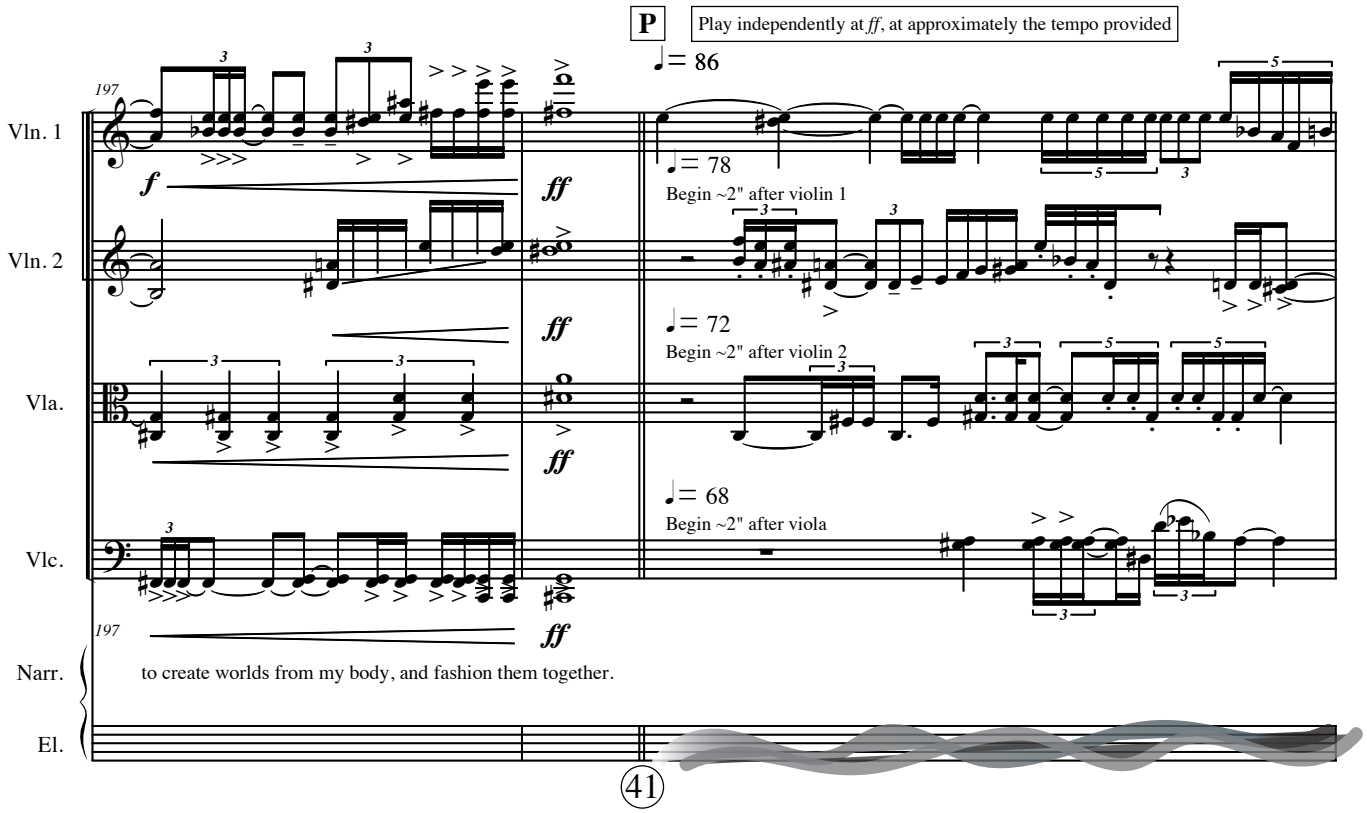

180
Vln. 1
Vln. 2
Vla.
Vlc.
180
Narr.
I think you hate my body.
My breasts and my vagina offend you....send you running.
Unless you need to clear your browser history
El.

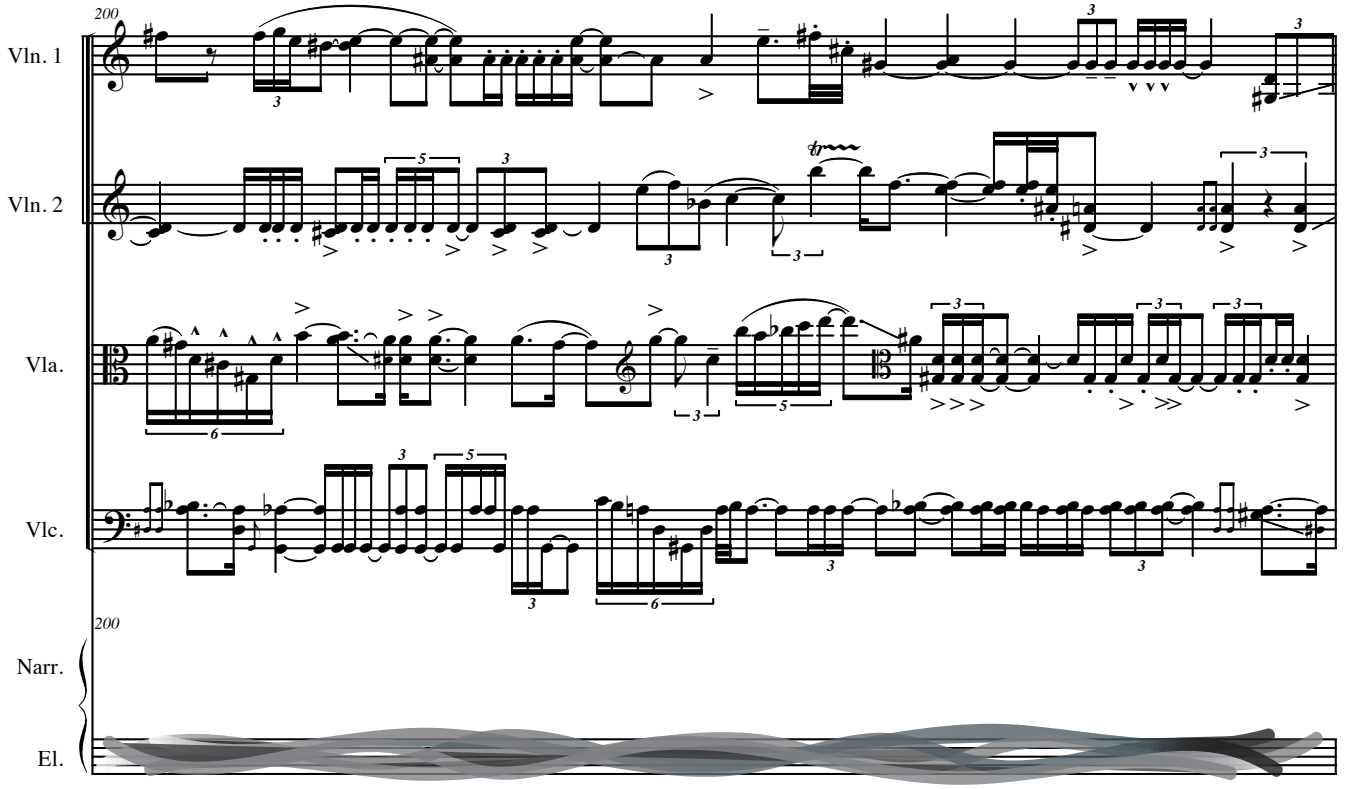

183
Vln. 1
Vln. 2
Vla.
Vlc.
sul pont
Narr.
El.
You hate that I like it as much as you, don't you?
My womb, like the dark black earth

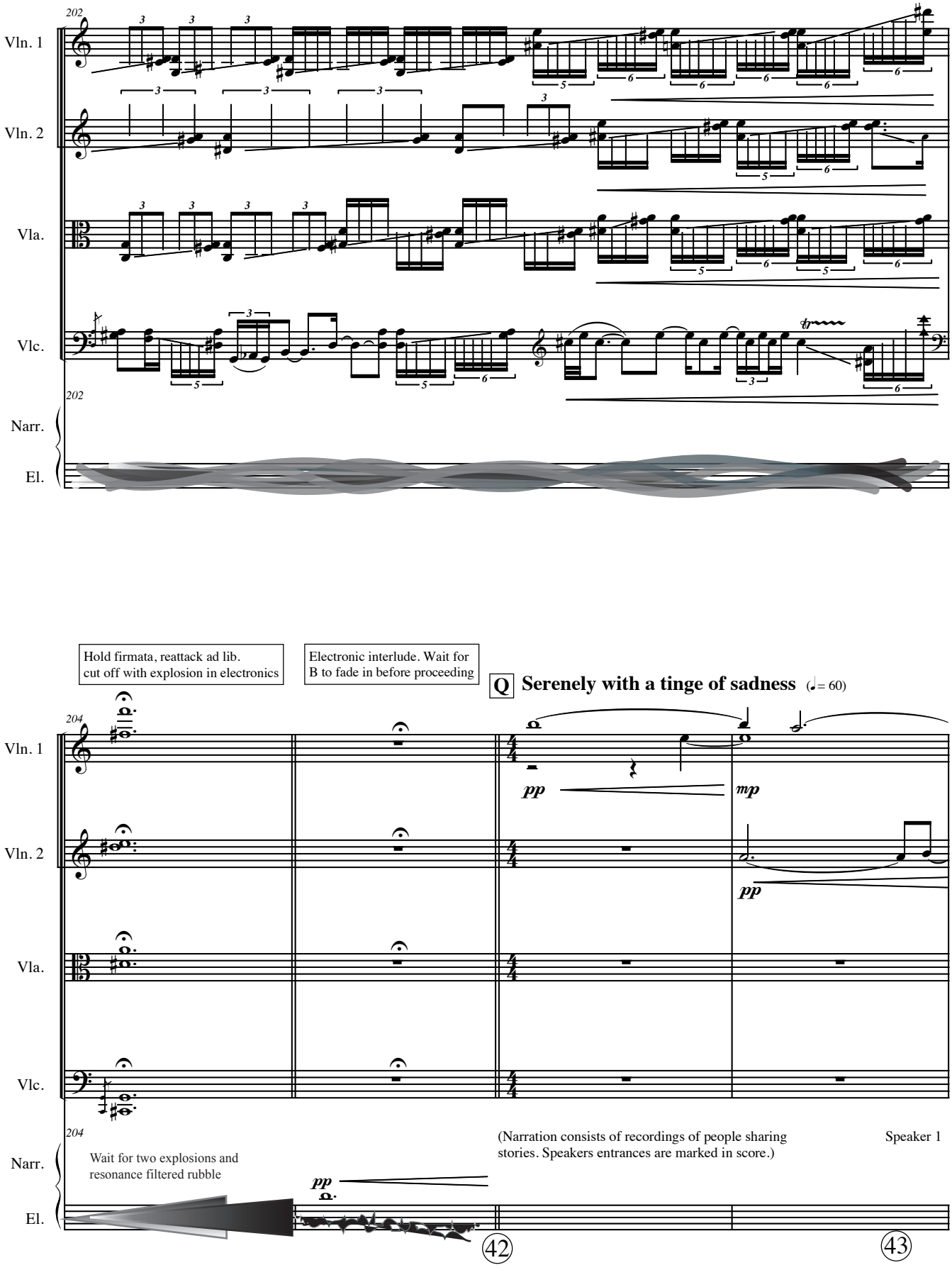

186
Vln. 1
Vln. 2
Vla.
Vlc.
pizz.
arco
Narr.
El.
that nourishes and feeds all life creating the oxygen we breathe, builds you cell by cell with nothing but blood and milk. And that womb is mine.

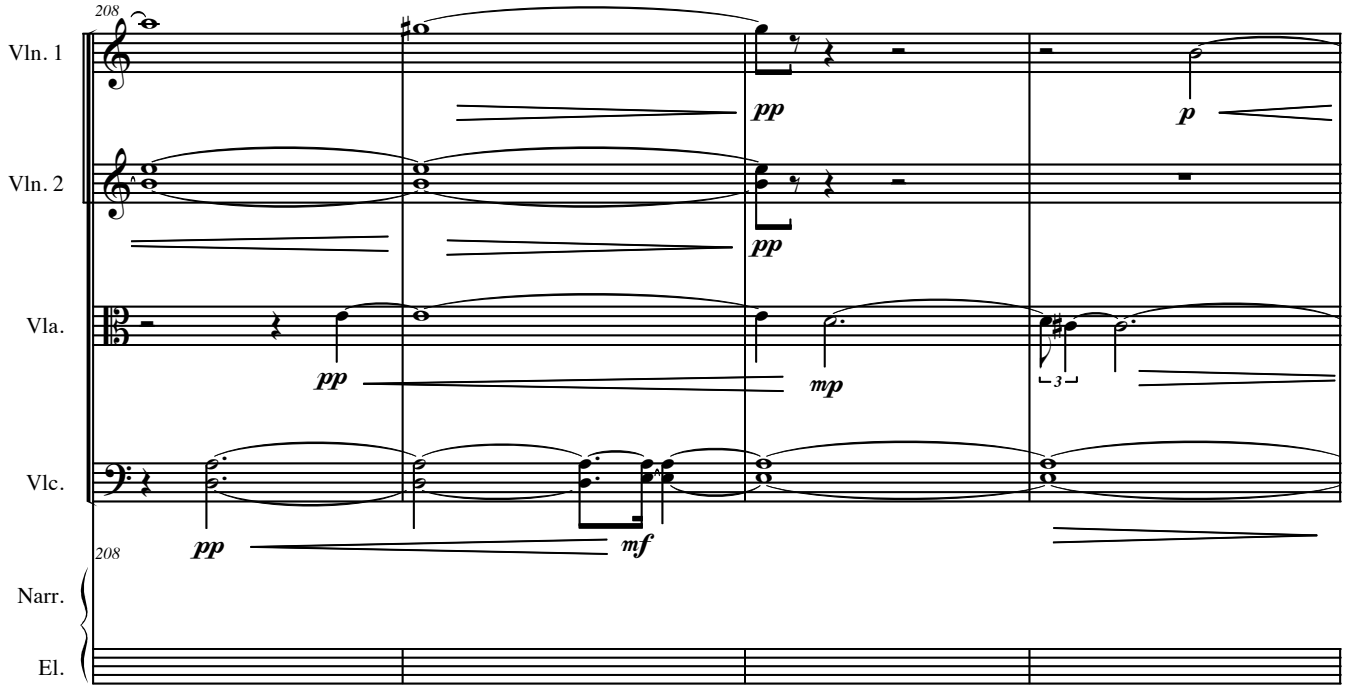

O
190
Vln. 1
Vln. 2
Vla.
Vlc.
Narr.
El.
ff
ffp
p
pp
It's mine.
Why do you hate that
I have these gifts?
39
40

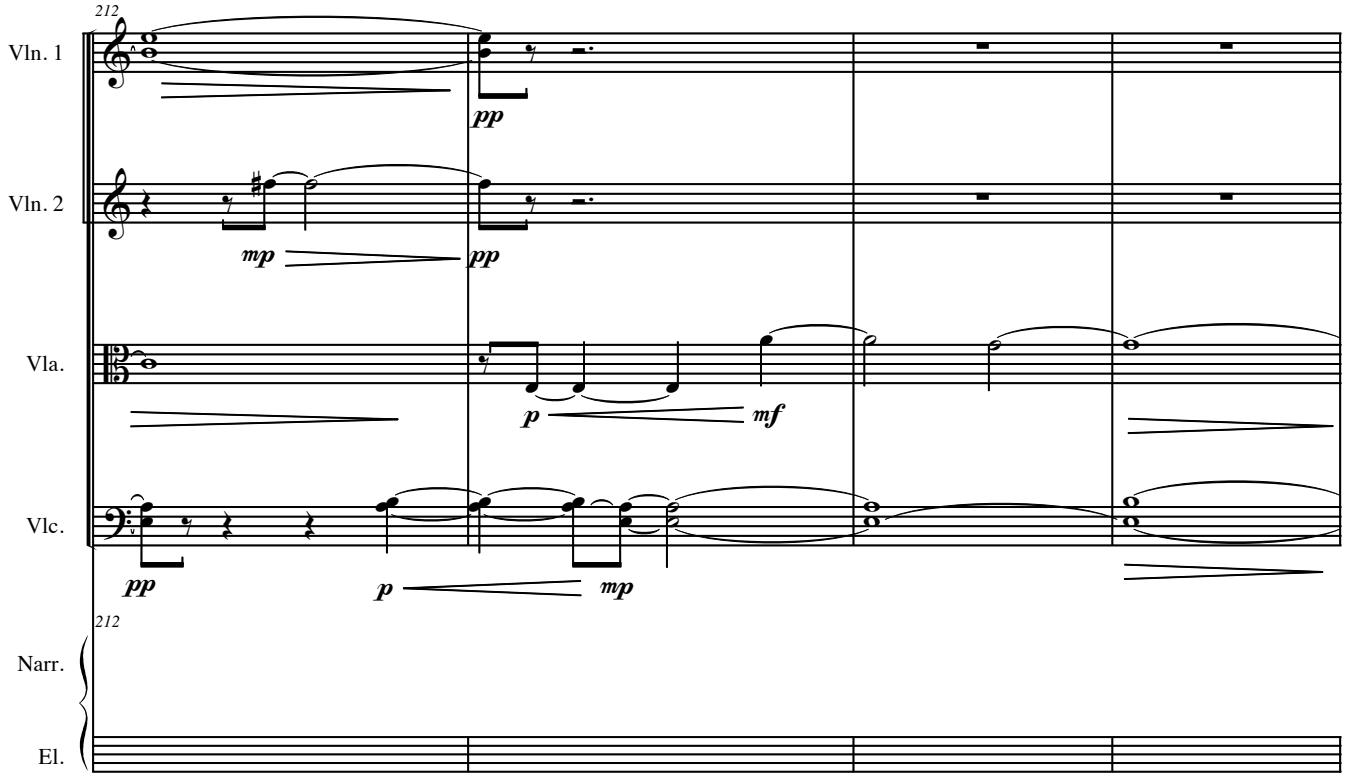

194
Vln. 1
Vln. 2
Vla.
Vlc.
Narr.
El.
pizz.
arco
sfz
f
mp
p
mf
fp
fsub
Which gifts were given to you? The strength to control the world, to mold and shape the earth, to bend metal and math?
Think of what we could accomplish together,

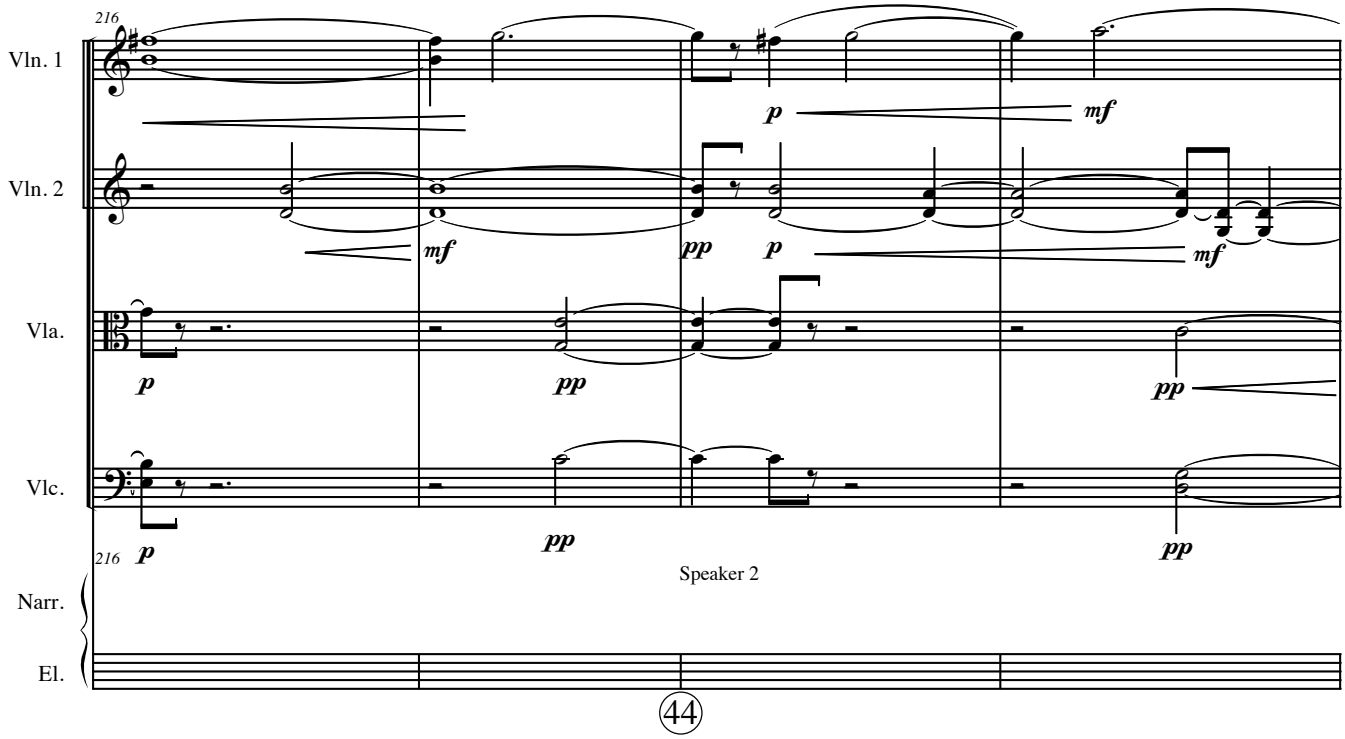

P
Play independently at ff, at approximately the tempo provided
197
Vln. 1
Vln. 2
Vla.
Vlc.
Narr.
El.
f
ff
♩= 86
♩= 78
Begin ~2" after violin 1
♩= 72
Begin ~2" after violin 2
♩= 68
Begin ~2" after viola
to create worlds from my body, and fashion them together.
41


200
Vln. 1
Vln. 2
Vla.
Vlc.
Narr.
El.

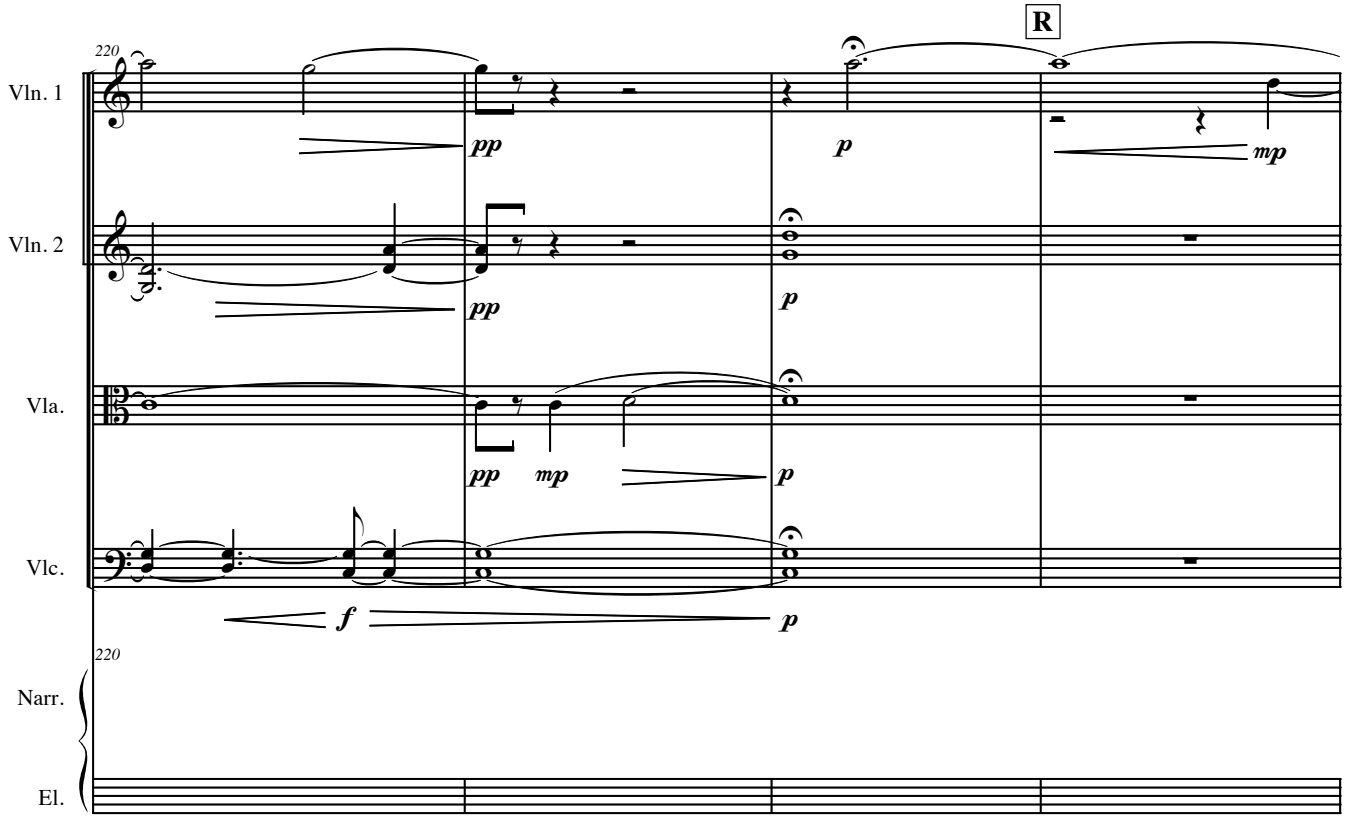

202
Vln. 1
Vln. 2
Vla.
Vlc.
202
Narr.
El.
Hold firmata, reattack ad lib.
cut off with explosion in electronics
Electronic interlude. Wait for
B to fade in before proceeding
Q
Serenely with a tinge of sadness
(♩= 60)
204
pp
mp
pp
204
Wait for two explosions and
resonance filtered rubble
pp
(Narration consists of recordings of people sharing
stories. Speakers entrances are marked in score.)
Speaker 1
42
43

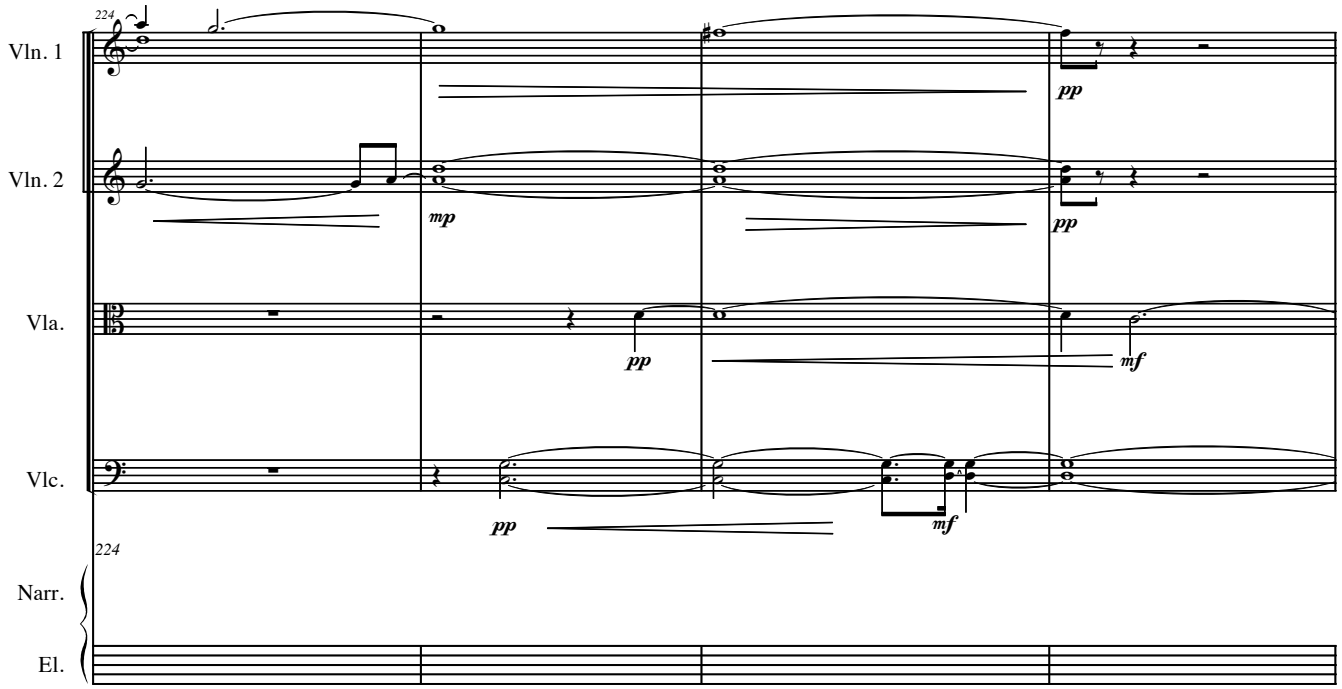

208
Vln. 1
Vln. 2
Vla.
Vlc.
Narr.
El.
pp
pp
p
pp
mp
3
pp
mf
208

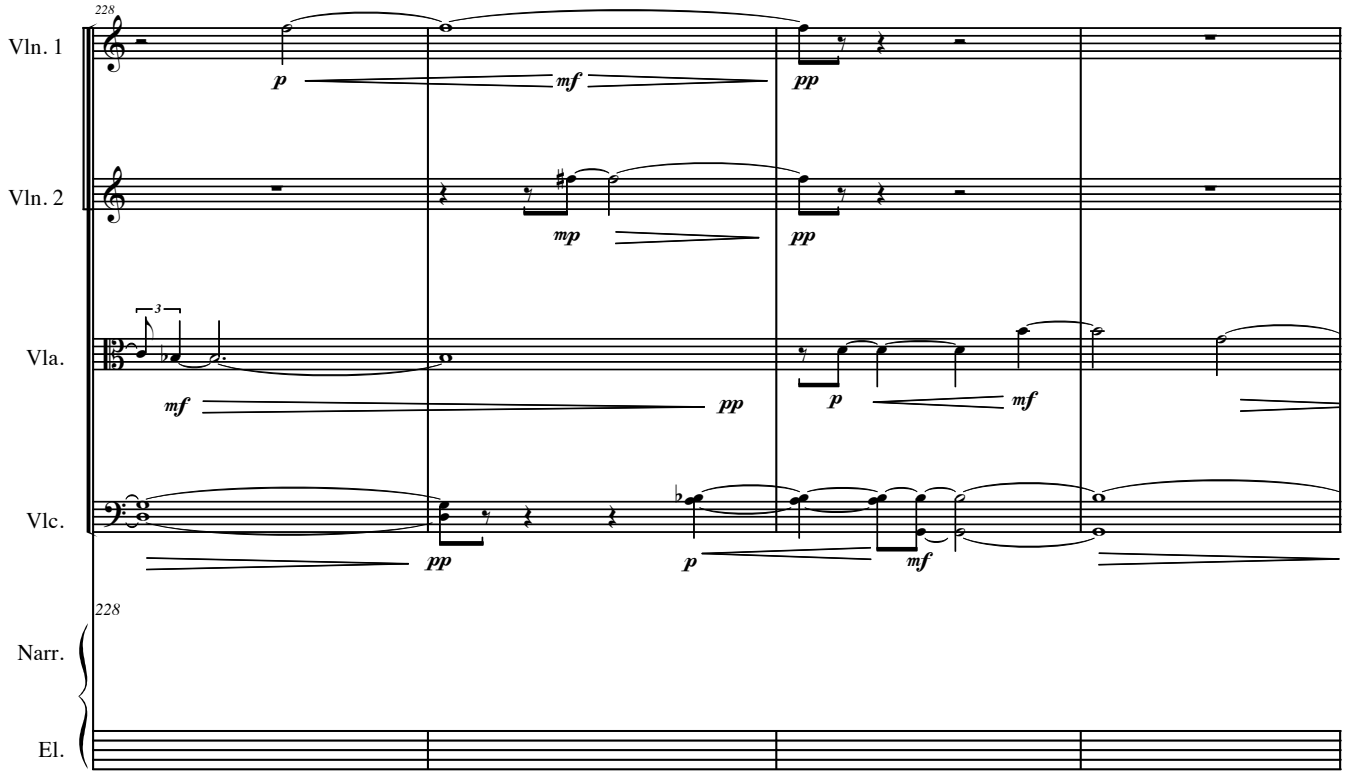

212
Vln. 1
Vln. 2
Vla.
Vlc.
Narr.
El.
pp
mp
pp
p
mf
pp
p
mp
212

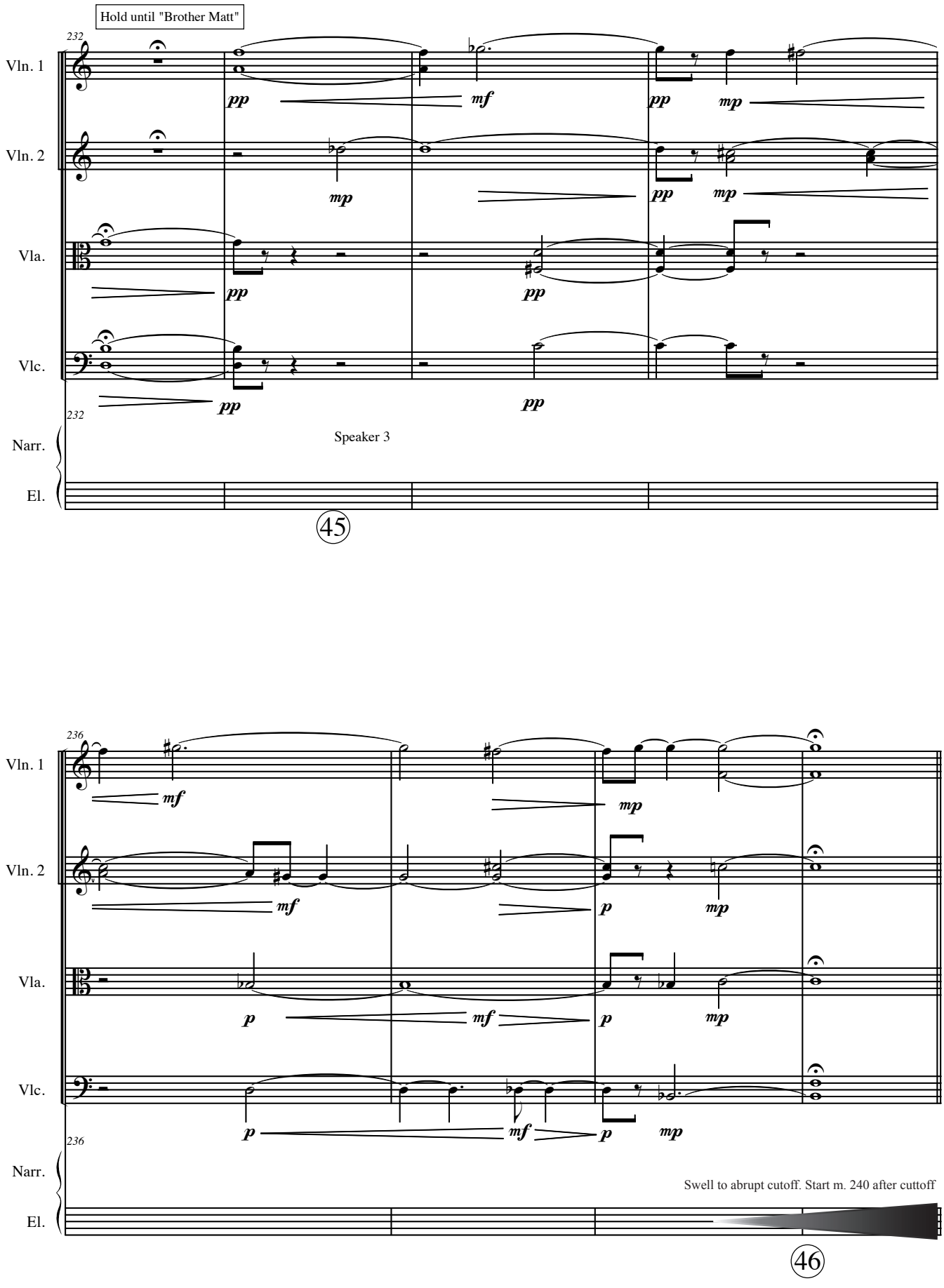

216
Vln. 1
Vln. 2
Vla.
Vlc.
Narr.
El.
Speaker 2

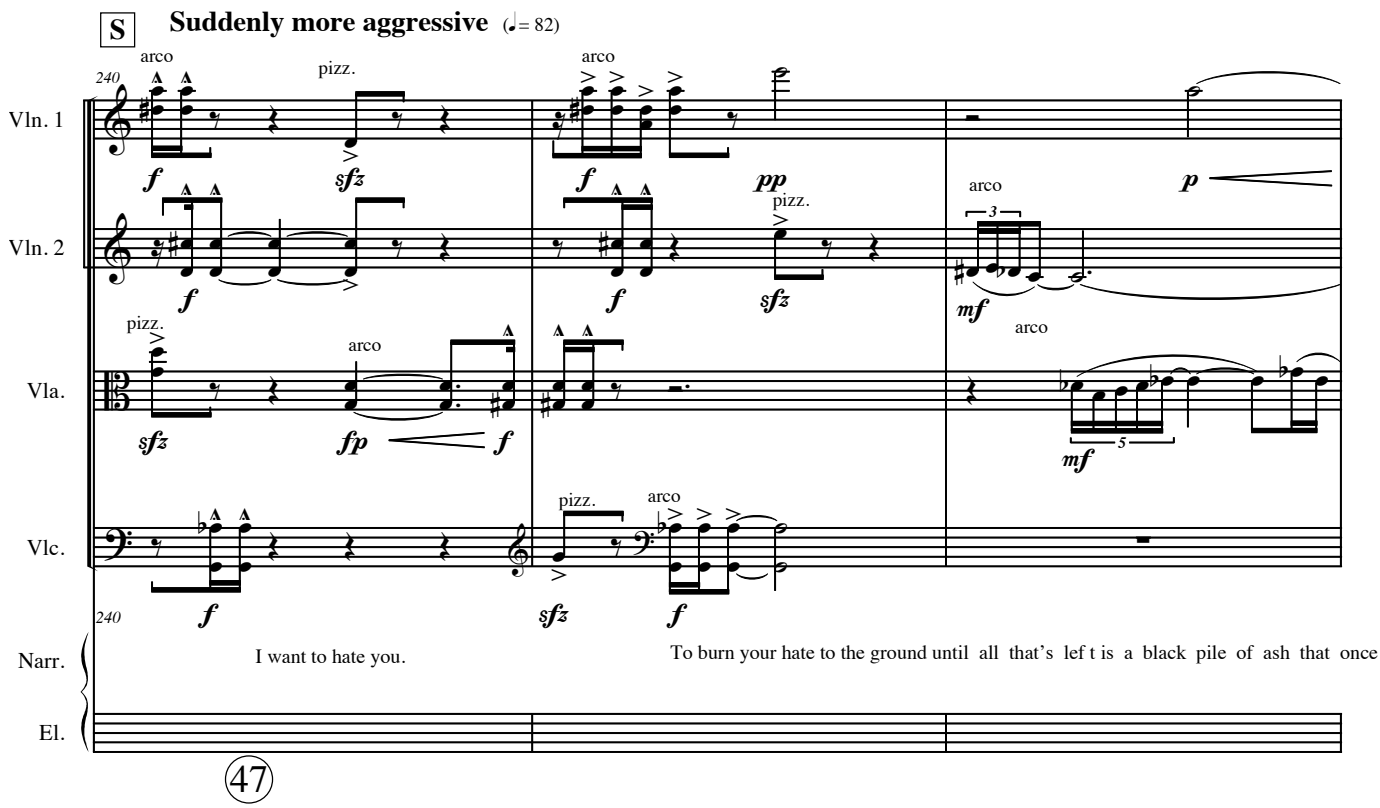
44

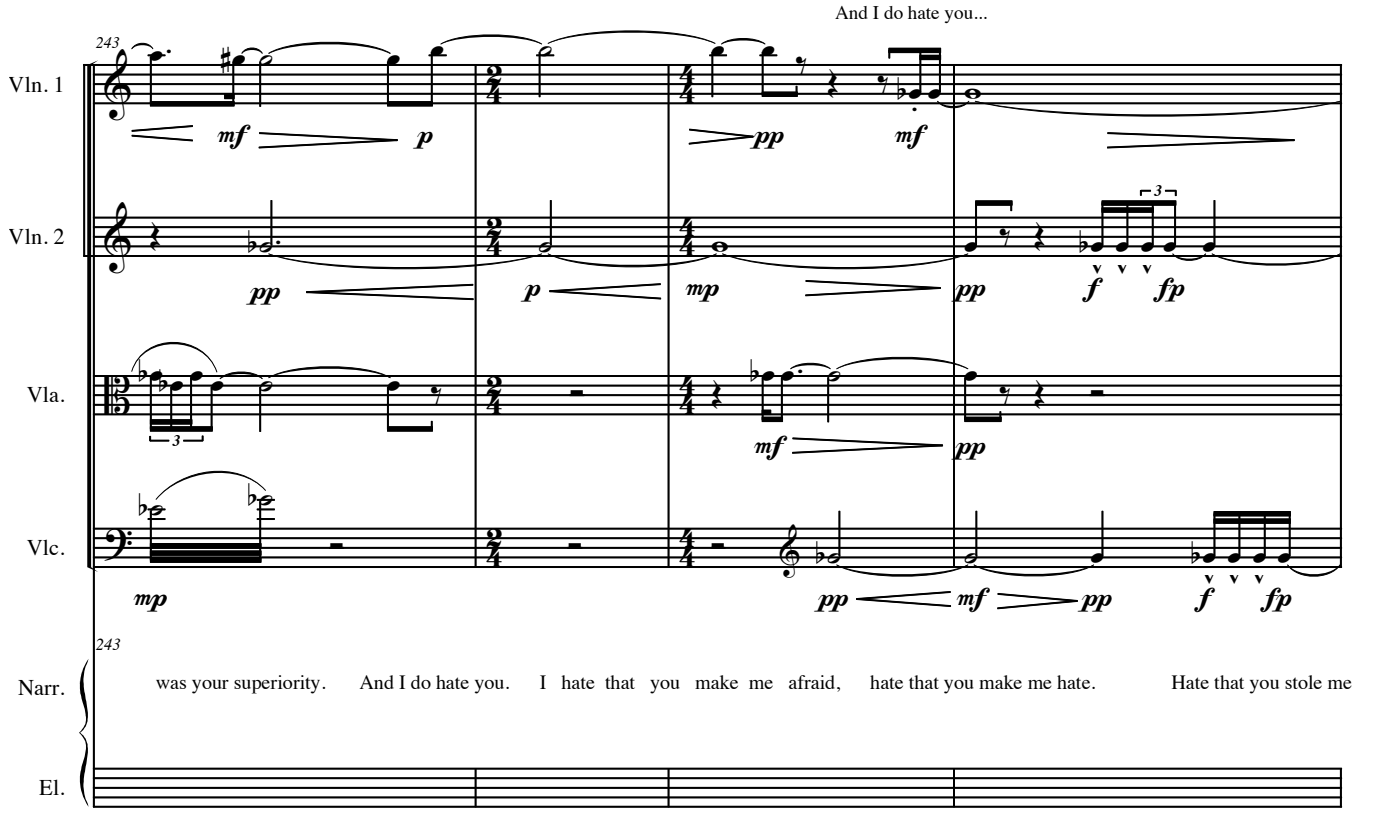

220
R
Vln. 1
Vln. 2
Vla.
Vlc.
Narr.
El.

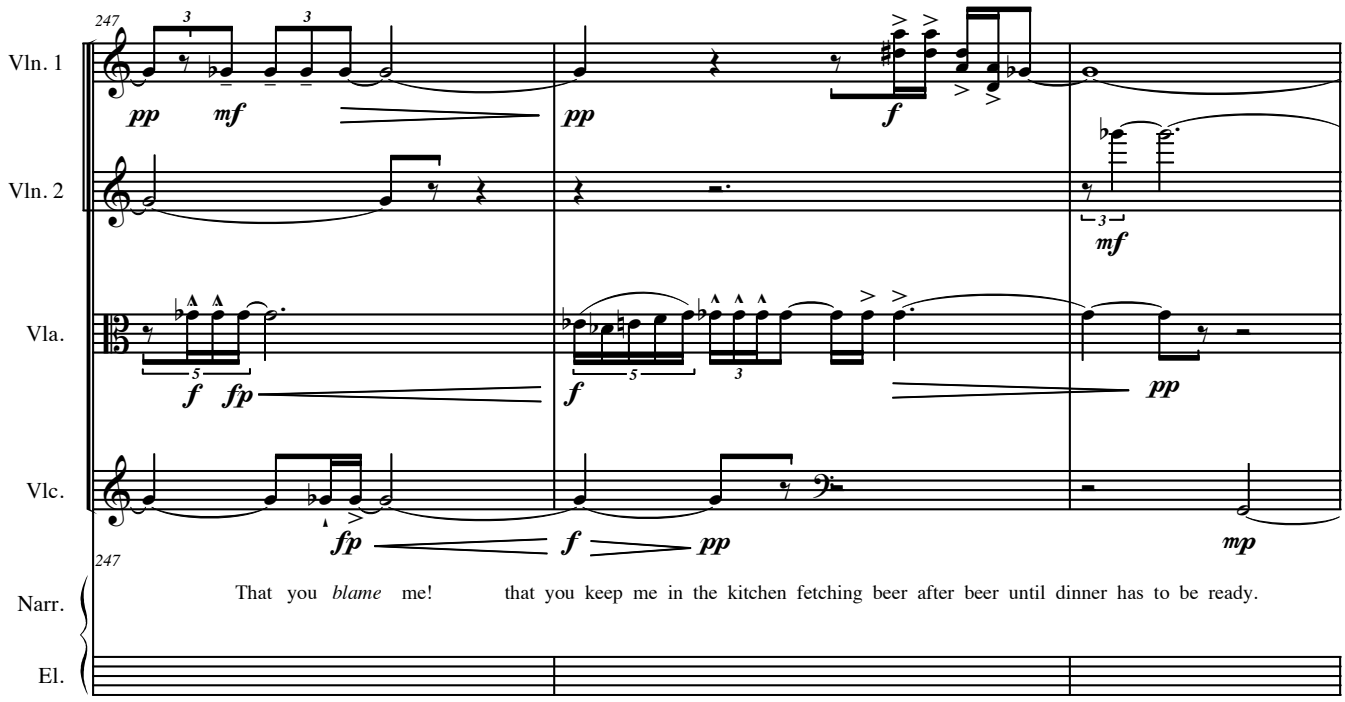

224
Vln. 1
Vln. 2
Vla.
Vlc.
Narr.
El.
pp
mp
pp
pp
mf
pp
mf

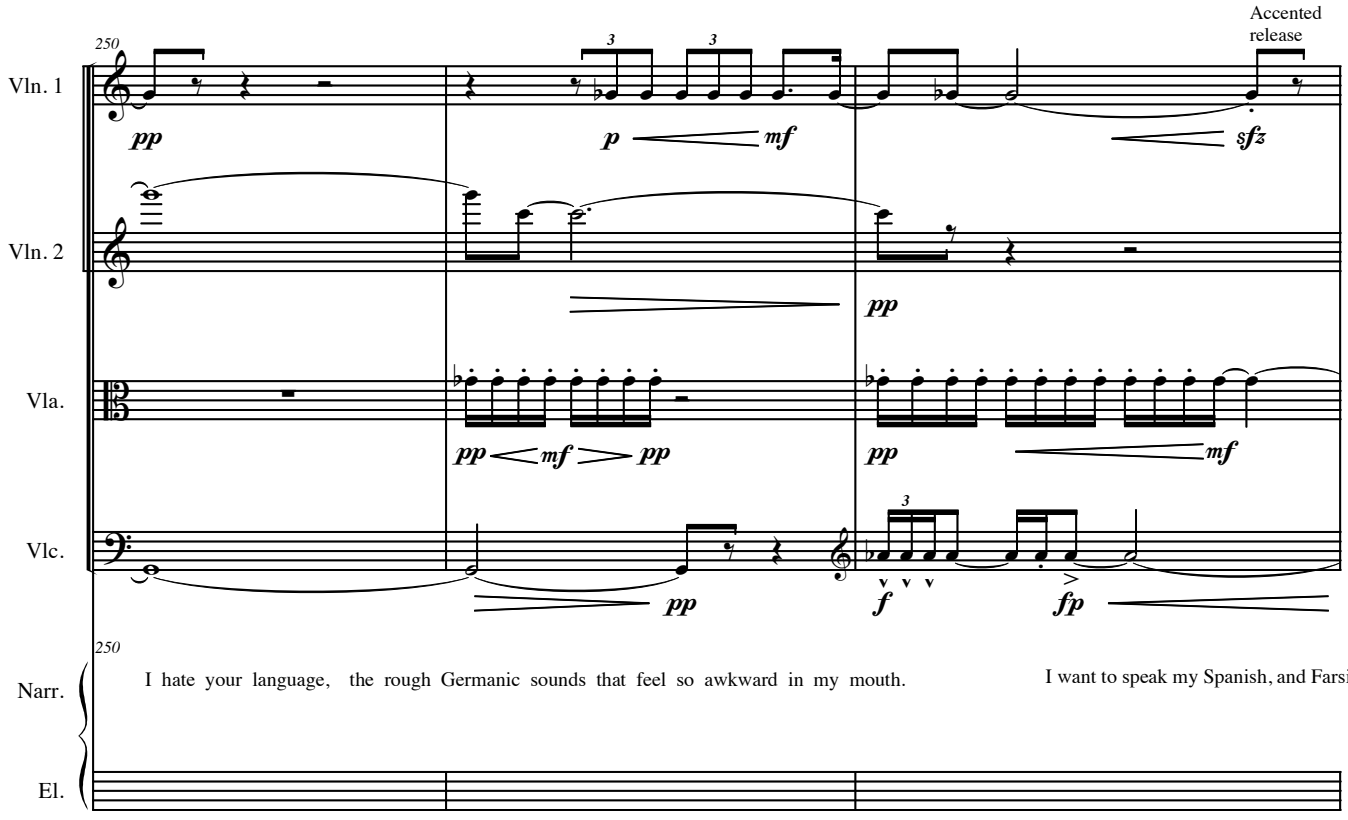

228
Vln. 1
Vln. 2
Vla.
Vlc.
Narr.
El.
p
mf
pp
mp
pp
3
mf
pp
p
mf
pp
p
mf

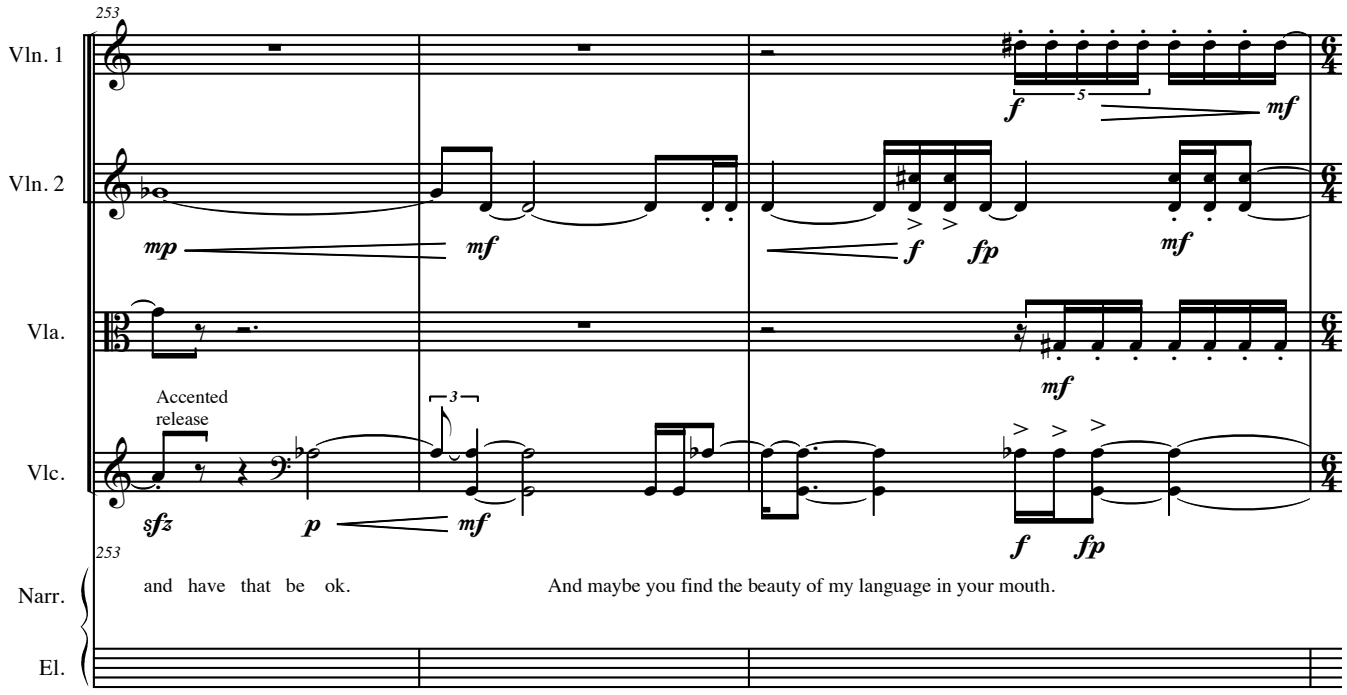

Hold until "Brother Matt"
232
Vln. 1
Vln. 2
Vla.
Vlc.
232
Narr.
Speaker 3
El.
45
236
Vln. 1
Vln. 2
Vla.
Vlc.
236
Narr.
Swell to abrupt cutoff. Start m. 240 after cuttoff
El.
46

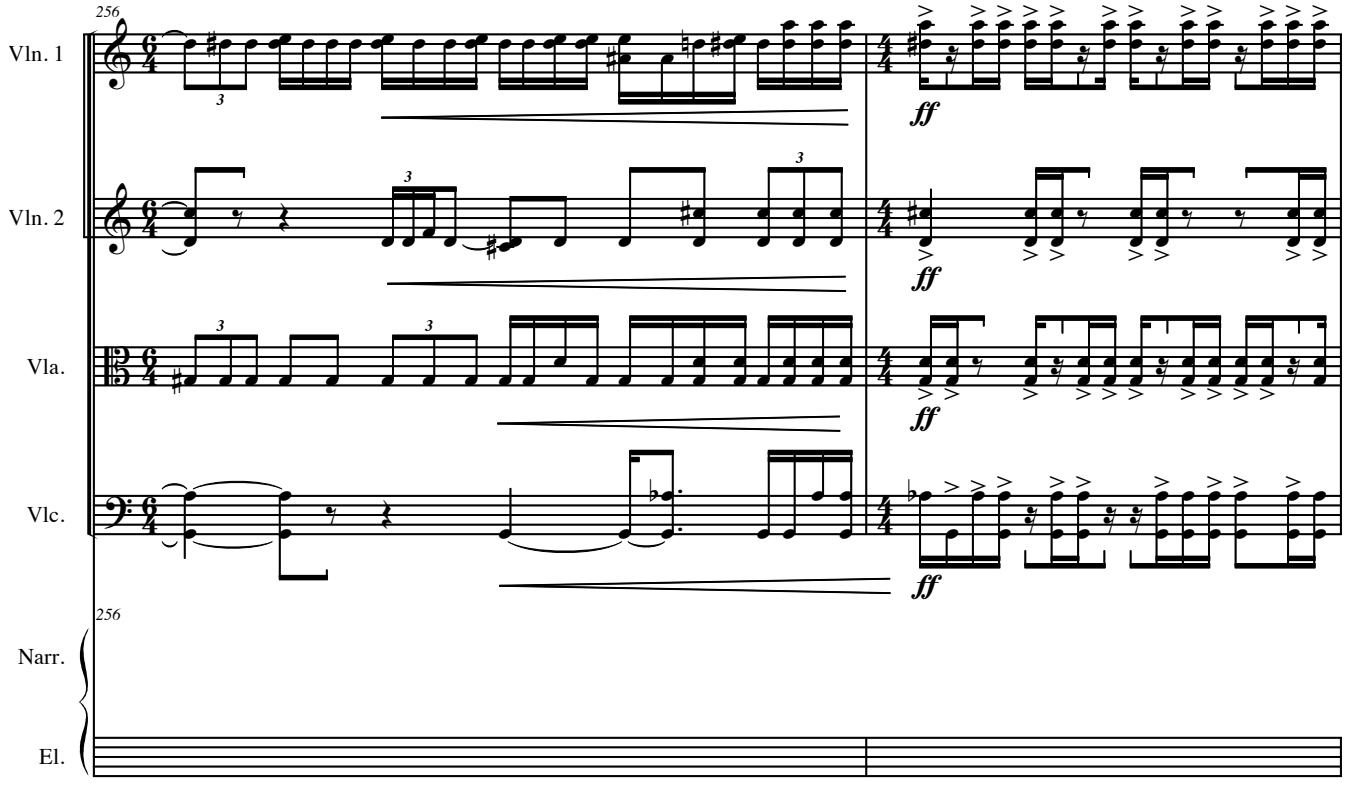

S
Suddenly more aggressive (♩= 82)
240
Vln. 1
Vln. 2
Vla.
Vlc.
arco
pizz.
f
sfz
fp
pp
p
mf
3
5
Narr.
El.
I want to hate you.
To burn your hate to the ground until all that's lef t is a black pile of ash that once
47

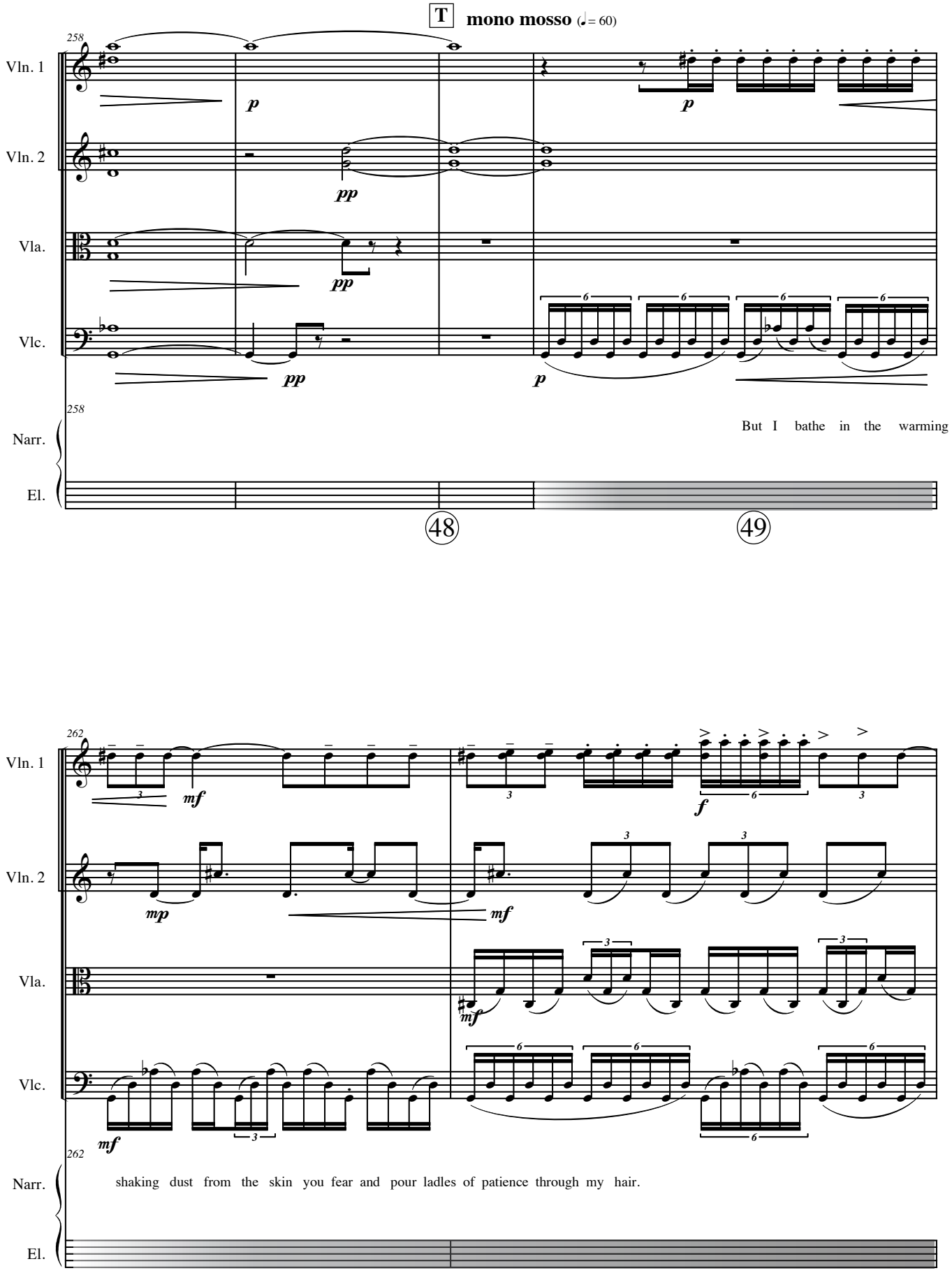

And I do hate you...
243
Vln. 1
Vln. 2
Vla.
Vlc.
mp
mf
p
pp
f
fp
3
Narr.
El.
was your superiority. And I do hate you. I hate that you make me afraid, hate that you make me hate. Hate that you stole me

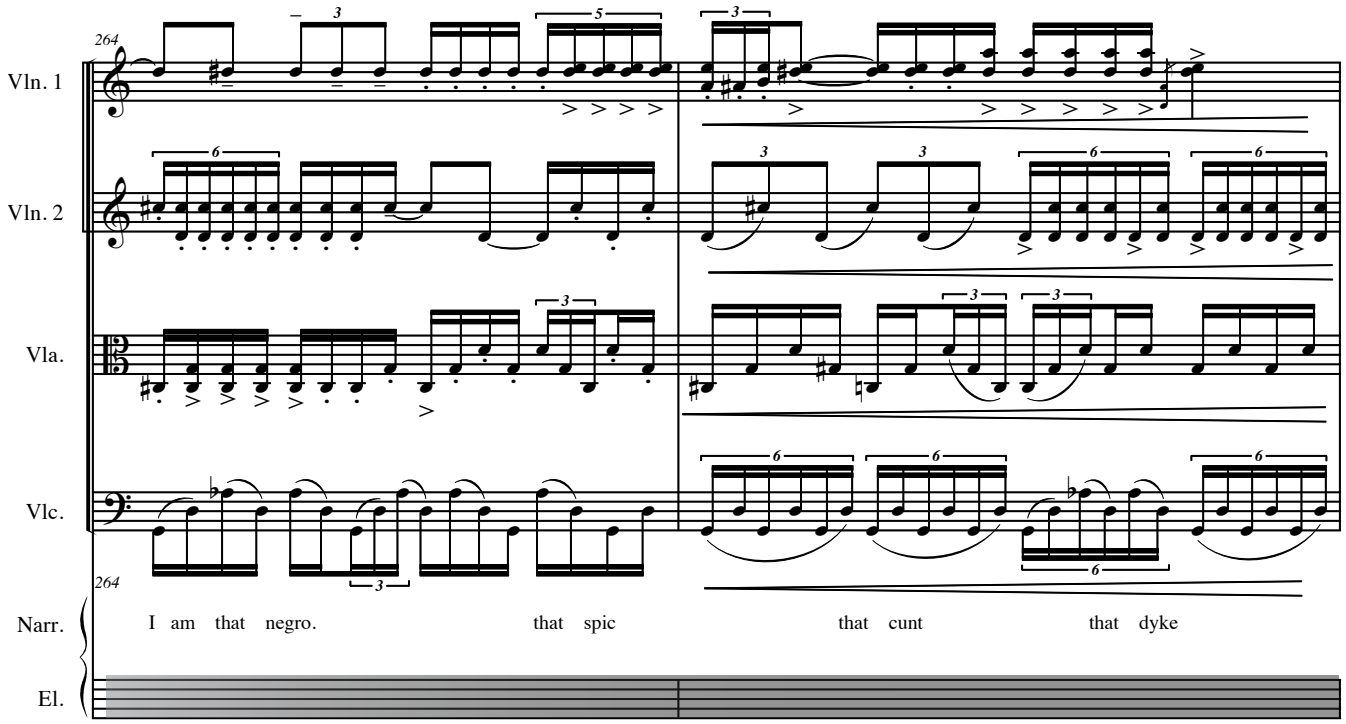

247
Vln. 1
Vln. 2
Vla.
Vlc.
247
Narr.
El.
That you *blame* me!
that you keep me in the kitchen fetching beer after beer until dinner has to be ready.

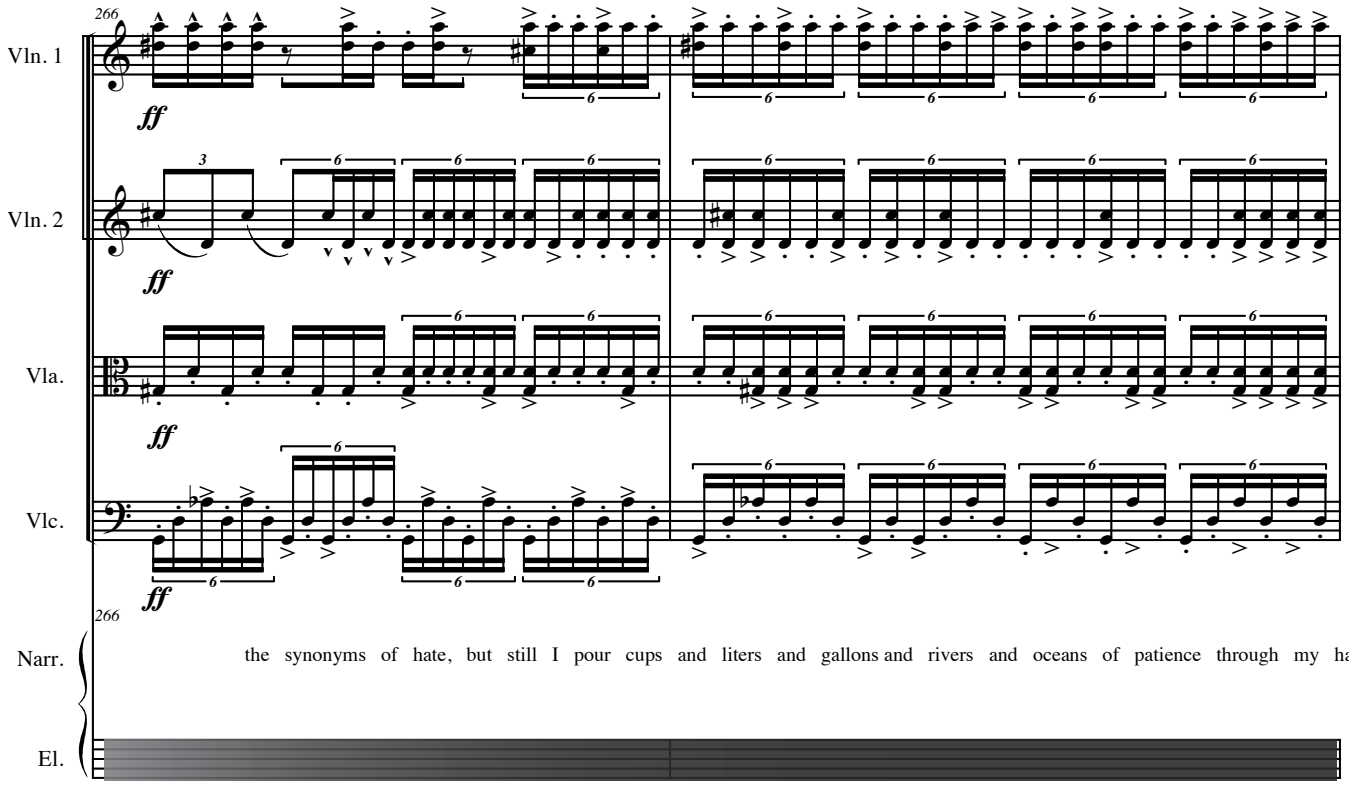

Accented release
250
Vln. 1
Vln. 2
Vla.
Vlc.
250
Narr.
El.
I hate your language, the rough Germanic sounds that feel so awkward in my mouth.
I want to speak my Spanish, and Farsi

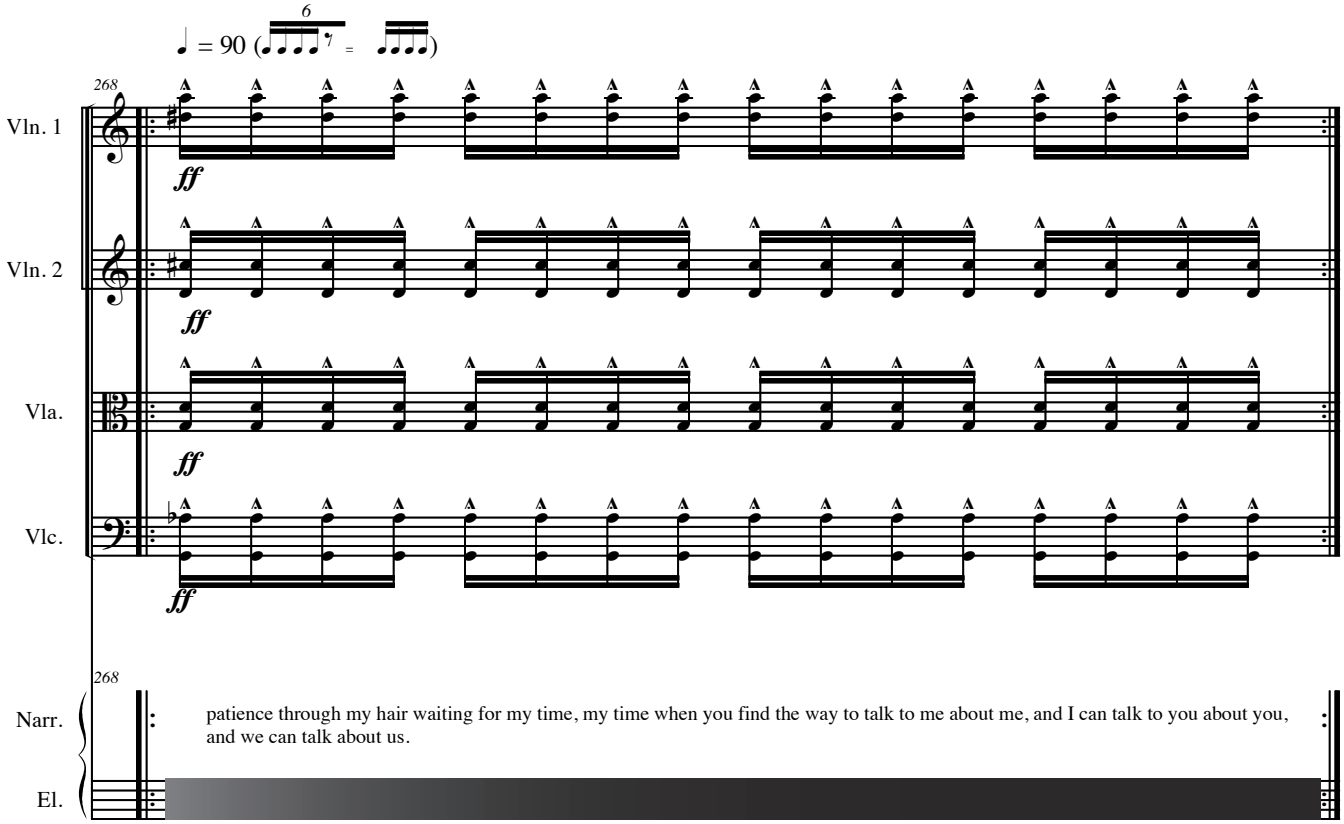

253
Vln. 1
Vln. 2
Vla.
Vlc.
Narr.
El.
Accented release
and have that be ok.
And maybe you find the beauty of my language in your mouth.

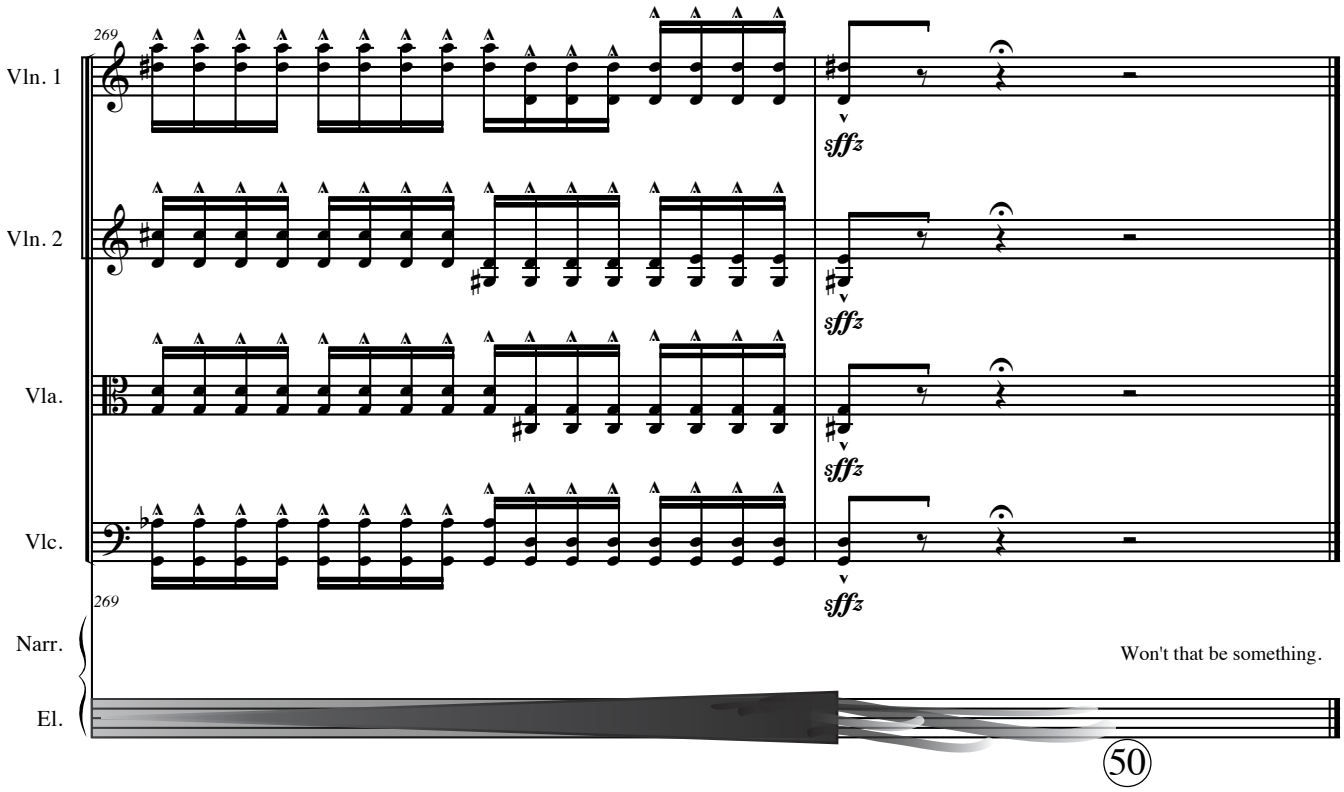

256
Vln. 1
Vln. 2
Vla.
Vlc.
Narr.
El.


T mono mosso (♩= 60)
258
Vln. 1
Vln. 2
Vla.
Vlc.
Narr.
El.
But I bathe in the warming
48
49
262
shaking dust from the skin you fear and pour ladles of patience through my hair.


264
Vln. 1
Vln. 2
Vla.
Vlc.
264
Narr.
I am that negro. that spic that cunt that dyke
El.


266
Vln. 1
ff
Vln. 2
ff
Vla.
ff
Vlc.
ff
266
Narr.
the synonyms of hate, but still I pour cups and liters and gallons and rivers and oceans of patience through my hair
El.


6
♩ = 90 (♪♪♪♪♪ = ♪♪♪♪)
268
Vln. 1
Vln. 2
Vla.
Vlc.
ff
268
Narr.
El.
patience through my hair waiting for my time, my time when you find the way to talk to me about me, and I can talk to you about you, and we can talk about us.


269
Vln. 1
Vln. 2
Vla.
Vlc.
sffz
269
Narr.
El.
Won't that be something.
50

Appendix A: Glossary

Acousmatic Music – a style of electronic composition in which a fixed media audio file (digital audio file, magnetic tape, CD playback) is diffused from a collection of loudspeakers; the term *acousmatique* was first used by Jérôme Peignot and Pierre Schaeffer in 1955 to describe the experience of listening to *musique concrete*.

Buffer shuffling – a type of sound file granulation in which small portions (0 - ~50 ms) of the file are played in succession, creating an elongated version of the sound, or resulting in a garbled version of the original audio. The entire memory allocation for the audio file is referred to as a buffer, while the process of isolating and re-ordering small slices is the shuffling effect

Max/MSP – A visual-based programming language for music and multimedia development; the user connects objects that perform tasks to create algorithms for generating and/or processing audio, video and other media. A project created in Max/MSP is referred to as a Max patch

Microphone pick-up – a physical electronic input device that can be attached to instruments as a means of transmitting signal from the instrument to a mixer or audio interface for recording, amplification and digital signal processing

Patch – a project or piece of software created using Max/MSP; can range from simple tools to large-scale pieces of software for sound and media processing and generation

Q (quality) – a parameter of a bandpass filter that determines how wide or narrow the isolated band of frequencies will be, calculated as the center frequency (CF) divided by the total bandwidth (BW) of the filter, Q = CF/BW; Bandpass filters with a very high Q factor (i.e. low bandwidth) can create ringing resonant frequencies at the center frequency of the bandpass filter

Resonance Filters – banks of bandpass filters that isolate a band of frequencies, wherein each filter is set to have a very high Q value (see Q); can create tuned resonance from generally non-resonant sounds

Text-sound Composition – an approach to electronic and/or acousmatic composition in which text and the voice are the primary means of generating material.

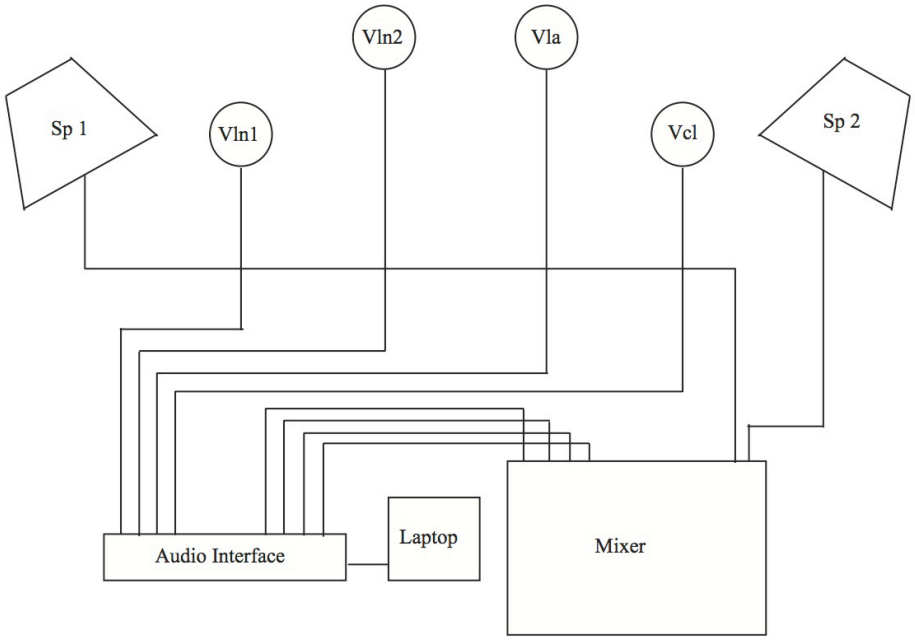
Spectromorphology – term coined by Denis Smally in his 1986 article “Spectromorphology”; refers to the manner in which sound objects in acousmatic music change over time in terms of gestural shape, timbre, texture and motion.

Trigger – relating specifically to Max/MSP patches, triggering is when one action causes another; as related to *Echo Chamber* triggering refers to the patch advancer pressing the spacebar to trigger new events to happen within the software (sound file playback, turning effects on/off, adding reverberation).

White Savior Art – a practice of making art or media in which the plight or struggle of a marginalized group of people is the center focus of the plot or narrative, but the resolution of conflict is found only through the intervention and assistance of a white (often male) savior protagonist. The subtext of these pieces is that the problem the marginalized group faces would not be resolved without the intervention of the white savior.d

Appendix B: Electronics Setup and Schematic

The schematic below is a diagram of the set-up for the electronics in *Echo Chamber*. The schematic takes into account all inputs to the software, outputs to speakers, stage location of performers, and location of mixing unit and computer



- A contact microphone fixed to each of the string instruments are connected to the audio interface via 1/4" cable inputs.
- The audio interface communicates with the computer via a Firewire or USB connection directly to the laptop, which is running the Max/MSP patch
- Four outputs from the interface are routed as inputs to a mixer. Outputs 1-2 from the interface are sound file are the sound files for the piece. Outputs 3-4 are the live signal and live electronics for the string players
    - By sending these as individual stereo signals to the mixer the user gains an extra gain stage for more refined live mixing in a performance situation
- Two outputs from the mixer (main outputs 1-2) are connected to two speakers to output the overall mix all of live amplification, live electronics and fixed sound files

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